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QUARANTINE AND SANITARY OPERATIONS

OF THE

BOARD OF HEALTH

OF THE

STATE OF LOUISIANA,

DURING 1880, 1881, 1882 AND 1883.

BY

JOSEPH JONES, M. D.,
President of the Board of Health of the State of Louisiana.

INTRODUCTION TO THE ANNUAL REPORT OF THE BOARD OF HEALTH TO THE GENERAL ASSEMBLY OF THE STATE OF LOUISIANA, 1883–4.

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BOARD OF HEALTH, STATE OF LOUISIANA,
NEW ORLEANS, April 2nd, 1884,

His Excellency, Samuel Douglas McEnery, Governor State of Louisiana, Baton Rouge.

Sir:—The Board of Health of the State of Louisiana, has the honor to submit through your Excellency, to the General Assembly of Louisiana, the Annual Report for 1883 and the first quarter of 1884, containing a condensed statement of the quarantine and sanitary operations of 1880, 1881, 1882 and 1883.

It was deemed of importance, that all facts relating to the HISTORY THEORY AND PRACTICE OF QUARANTINE, AND TO THE MEASURES INSTITUTED FOR THE ARREST AND EXCLUSION OF CONTAGIOUS DISEASES AND ESPECIALLY YELLOW FEVER from the valley of the Mississippi, should be fully set forth for the information and guidance of the Honorable Representatives of Louisiana.

The Board of Health organized in accordance with the provisions of the Constitution of 1879, by the late Louis Alfred Wiltz, Governor of Louisiana, commenced its labors with scant resources, and with the quarantine establishment in delapidated condition.

By rigid economy, and by the wise counsels, of the patriotic citizens, Hon. I. N. Marks, Hon. Edward Booth and Colonel A. W. Bosworth, the quarantine stations have been repaired and equipped, the approaches to the southern and eastern shores of Louisiana have been strengthened by additional guards, every obligation has been promptly met by cash payments, and the President and Finance Committee retire at the expiration of their terms of service, leaving a surplus of near ten thousand dollars in Bank, to the credit of the Board.

During the four years 1880–1883, 4436 vessels (more than one half or 2457 of which were large ocean going steamships), exceeding 8,000,000 tons, were of inspected by the officers of the Board of Health at the Mississippi quarantine station, together with their crews and passengers which numbered over 100,000. During the same period 479 vessels from ports infected with yellow fever were held in the Mississippi quarantine disinfected and fumigated. At the Atchafalaya station, 1,064 vessels, about one half of which were ocean going steanships, with about 20,000 souls, crew and passengers. were inspected; and at the Rigolets quanantine station about 4338 vessels chiefly schooners, with about 24,000 seamen and passengers were inspected during the years 1880, 1881, 1882 and 1883.

During the period specified, therefore, the Board of Health of the State of Louisiana, through its faithful, experienced and energetic officers, inspected about 10,000 vessels which carried not less than 150,000 seamen and passengers.

Notwithstanding the prevalence of yellow fever in Vera Cruz, Havana, and Rio de Janeiro during this period, and notwithstanding the prevalence of yellow fever at Brownsville, Texas, and at Pensacola Florida, in 1882, and at the Naval Reservation Florida, and at Brewton Alabama, in 1883, and notwithstanding the presence of yellow fever at the Mississippi Quarantine Station in 1880 and in 1882, New Orleans and the Mississippi valley have been free from this terrible scourge.

The Honorable Representatives of Louisiana, will find in the present and preceding reports of 1880, 1881, 1882 and 1883, a detailed statement of the relations of climate to endemic and epidemic diseases and especially of heat and moisture to the origin and dessemination and progress of yellow fever,

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together with a full and accurate record of the sanitary measures instituted for the arrest of contagious and infectious diseases.

The labors of the Board of Health of the State of Louisiana during the years 1880, 1881, 1882 and 1883, have established the following conclusions:

1. *Yellow fever is not indigenous to New Orleans.*
2. *Yellow fever is not indigenous to Louisiana.*
3. *Yellow fever is not indigenous to the Mississippi Valley.*
4. *Yellow fever can be excluded from New Orleans and the Mississippi Valley by a rigid and effective quarantine.*
5. *Quarantine to be effective, must embrace not merely inspection and detention, but discharge of infected cargoes, thorough ventilation and fumigation.*
6. *The citizens of Louisiana should demand that the members of the Board of Health appointed by the Governor and Common Council of New Orleans, should be men competent to devise and execute the measures, necessary to the exclusion of foreign pestilence from the waters of Louisiana.*

After a continuous battle, of four years duration, in which the vast maritime interests of the State, and the power and influence of the wealthiest railroad and steamship company in the Southwestern States, were marshalled against the legally constituted health authorities, the Board of Health of the State of Louisiana achieved a memorable and signal victory on the twenty-first of January 1884, in the complete and triumphant vindication of its efforts to exclude foreign pestilence from the Mississippi Valley, by the highest legal tribunal of the State of Louisiana.

If the decision of the Supreme Court had been adverse to the Board of Health, the quarantine laws of Louisiana would have been rendered powerless for the exclusion of foreign pestilence. Quarantine must be sustained either by an appropriation from the State government, or from the inspection fees; the General Assembly of Louisiana had made no appropriation for the maintenance of quarantine; therefore if the decision of the Lower Court had been sustained by the Supreme Court of Louisiana, an extra session of the Legislature would have been necessary for the appropriation for the support of the officers and employes, the supply of disinfectants, the maintenance of the hospitals, and the isolation and treatment of seamen and passengers, suffering with contagious and infectious diseases. The actual expenses of an extra session of the Legislature of Louisiana, would have imposed an additional burden upon the taxpayers of the State which would have exceeded the amount now collected for the support of quarantine at least four times; in other words, the expenses of the extra session would have been sufficient to maintain the quarantine system, during a period of four years and longer.

The records of the Board of Health show that the Morgan's Louisiana and Texas Railroad Company is indebted to the State of Louisiana, for quarantine fees, about $14,385; and the Cromwell Steamship Line $8400; total amount due to the State of Louisiana by the Morgan and Cromwell lines, about $22,865.

The decision of the Supreme Court of Louisiana, in case No. 8755, not merely relieved the citizens from the additional expense of an extra session of the General Assembly, but also affirmed the right of the State to over $22,000 due for unpaid quarantine fees, by the Morgan and Cromwell lines.

The decision of the Supreme Court of Louisiana has confirmed the view held and strenuously advocated by the President of the Board of Health that:

The fees collected by the State of Louisiana from vessels subjected to the quarantine laws are not in the nature of a tax or impost on commerce, but are a just and necessary compensation for the great service rendered commerce in the cleansing and dissinfection of the vessels and cargoes, in the care and treatment of the sick, by the medical officers of the State, and by the exclusion of foreign pestilence, and the establishment of public confidence, and the maintenance of commerce, which, but for said quarantine service would be greatly damaged.

Were it not for the execution of the quarantine laws by the Board of Health of the State of Louisiana, the port of New Orleans would be hermatically sealed to commerce during from four to six months every year, and all intercourse with the surrounding States would be closed by the *shotgun quarantines, controling the river and railroads.*

The decision of the Supreme Court of Louisiana, is of interest and importance to every State and municipal government in the United States of America, for the doctrine is here clearly recognized, that:

The establishment and enforcement of quarantine by individual States is not a regulation of commerce in violation of the provisions of the Federal constitution, but is the legitimate exercise of the POLICE POWERS, *by the individual States which are* INALIENABLE, AND WHICH IN A REPUBLIC *cannot be surrendered to the* GENERAL GOVERNMENT, *without transforming the sovereign States, into the dependent provinces of a centralized* DESPOTISM.

The prevalence of small-pox in the States tributary to the Mississippi river, and the constant danger to which Louisiana is exposed from her geographical position, and from the peculiar *race conditions* of the lower sections of the Mississippi valley, as well as the neglect of vaccination by large masses of the population, and the growth of a sentiment opposed to vaccination, on the part of the profession and people, rendered it necessary that a special work should be issued on *small-pox (variola) modified small-pox (varioloid) chicken pox (varicella) cow pox (variolæ vaccinæ); vaccination and spurions vaccination* for the guidance of the Quarantine Officers and the Sanitary Inspectors of the Board of Health of the State of Louisiana, and for the information of the legal and medical profession of Louisiana.

No more important subject can engage the attention of the medical profession and sanitary authorities, and the representatives of the State, Municipal and Parish governments, than the prevention of small-pox. Vaccination and all that relates to vaccination is of paramount importance to the welfare of the inhabitants of Louisiana, and the President of the Board of Health carried out the official request of his patriotic and honorable colleagues in the preparation and distribution of a large edition of this work illnstrated by colored plates to foreign consuls, leading physicians, sanitarians and jurists of Louisiana, and other States and Countries.

All facts and measures relating to the prevention of endemic, epidemic, contagious and infectious diseases, are of interest and importance to sanitarians, physicians and political economists.

Efforts to exclude and arrest contagious diseases possess peculiar value, when exerted in behalf of the inhabitants of some great commercial metropolis, like New Orleans, whose existance and prosperity are indissolubly bound up with those of the people living upon the banks of her great river, and within the bounds of the fertile plains of its mighty valley.

During the years 1853, 1854 and 1855, New Orleans lost 12,780 of her citizens by yellow fever, an *exotic imported disease*; and in 1878, she lost by *yellow fever*, 4056 souls and $15,000,000.

The internal or interstate trade of New Orleans equals annually about $200,000,000, exceeding greatly the value of the foriegn imports and exports.

The preservation of this internal interstate trade depends absolutely upon an efficient quarantine guarding the approaches of the Mississippi valley, from the Gulf of Mexico.

New Orleans will become a great manufactoring centre for cotton, tobacco, jute, and sugar, provided that pestilence is kept away by a rigid system of domestic sanitation.

If yellow fever is allowed to enter, this port will be hermetically sealed; and during the embargo which may last as long as six months, there will be practically non-intercourse with the surrounding states, and all manufactories will be closed, as there will be no possibility of shipping manufactured articles.

No system of manufactories however well ordered, can sustain such periods of inactivity.

It is to be devoutly hoped that the freedom from *yellow fever* enjoyed by New Orleans and the Mississippi valley during 1880, 1881, 1882 and 1883, may be perpetual; and that the people of this great and favored land may be protected on the one hand from pestilence and on the other from destructive floods and periodical overflows.

In the succeeding report, his Excellency and the General Assembly of Louisiana will find recorded the results of the labors of the Quarantine, Sanitary and Financial Officers of the Board of Health.

These officers, with but a few exceptions, have served continously during the past four years, and they have proven themselves worthy of the responsible trusts confided to them by the representatives of the people.

Respectfully submitted to his Excellency Samuel Douglas McEnery, Governor of the State of Louisiana, and to the Honorable the General Assembly of Louisiana.

JOSEPH JONES, M. D.,
President Board of Health, State of Louisiana.

ANNUAL REPORT

OF THE

BOARD OF HEALTH,

OF THE

STATE OF LOUISIANA,

To the General Assembly, for the Year 1883.

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Board of Health, State of Louisiana.

———o———

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GEORGE K. PRATT, M. D.,	Office, 130 Canal street. Residence, 152 Prytania street.
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J. C. FAGET, D. M. P.,	Office and Residence, 281 North Rampart street.
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A. W. BOSWORTH, Esq.,	Office, 29 Natchez street. Residence, 152 Washington street.
I. N. MARKS, Esq.,	Office, 33 Camp street. Residence, 163 Annunciation street.
EDWARD BOOTH, Esq.,	Office, 32 Magazine street. Residence, 506 Magazine street.
S. S. HERRICK, Secretary and Treasurer.	Office, Cor. Royal St. Louis streets. Residence, 427 Carondelet street.

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Conference—Messrs. Bosworth, Pratt, Faget, Marks and Booth.

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Infectious and Contagious Diseases—Messrs. Faget, Pratt and Formento.

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Atchafalay Station—J. H. P. Wise, M. D.

Rigolets Station—Dan'l W. Adams, M. D.

Engish Look-out Station—Wm. H. Carson, M. D.

Port Eads Boarding Station—B. F. Taylor, M. D., May 1 to July 5; George H. J. Hart, M. D., July 5 to September 30.

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Registration Clerk—P. Henry Lanauze.

Clerk and Book-keeper—Isaac H. Stathem.

Collector and Clerk—B. B. Howard.

Inspector of Coal Oils—Eugene Le Gardeur.

Messenger—Allen Warley.

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First District—Robert A. Bayley, M. D., inspector, office, Delord, near Carondelet; office hours, 1 to 2 p. m.; residence, 740 Magazine street.

E. Bohner, 267 Thalia street, Sanitary police.

L. D. Allen, 300 St. Louis street, Sanitary police.

Second District—C. Faget, M. D., Inspectors, office; corner of St. Louis and Royal street, office hours; 12 m. to 1 p. m., residence; 281 North Rampart street.

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Fifth District—A. M. Beret, M. D., Inspector, office; Delaronde and Bonny streets, office hours; 11:30 a. m., to 1:30 p. m., residence; 485½ St. Claude street.

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J. Tracy, 791 Magazine street, Sanitary Police.

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INTRODUCTION.

MEASURES FOR THE PREVENTION AND ARREST OF ENDEMIC, EPIDEMIC, CONTAGIOUS AND INFECTIOUS DISEASES.

All facts and measures relating to the prevention of endemic, epidemic, contagious and infectious diseases, are of interest and importance to sanitarians, physicians and political economists.

Efforts to exclude and arrest contagious diseases possess peculiar value, when exerted in behalf of the inhabitants of some great commercial metropolis, like New Orleans, whose existence and prosperity are indissolubly bound up with those of the people living upon the banks of her great river, and within the bounds of the fertile plains of its mighty valley.

During the years 1880, 1881, 1882 and 1883, embracing the term of service of the author as President of the Board of Health of the State of Louisiana, the diseases which have most seriously engaged the attention of the health authorities have been SMALL POX and YELLOW FEVER, and it is of moment that a concise account should be rendered of the measures instituted for the prevention and arrest of these diseases.

SMALL-POX.

MEASURES INSTITUTED BY THE PRESIDENT AND OFFICERS OF THE BOARD OF HEALTH FOR THE ARREST OF SMALL-POX IN NEW ORLEANS, LOUISIANA, DURING THE YEARS 1880, 1881, 1882 and 1883.

In 1880, one case of small-pox occurred in the Third District, in the month of May; death resulted after transference to the Small-Pox Hospital.

The dwelling in which the case occurred was fumigated, and the inmates, as well as the inhabitants of the surrounding houses, were vaccinated.

The disease was arrested, and no other cases appeared, or were reported to the Board of Health during 1880.

New Orleans was seriously threatened with small-pox early in 1881, but owing to the prompt and vigorous measures of the Board of Health the danger of an epidemic was arrested for a time.

The first case of small-pox, in 1881, within the bounds of Louisiana, made its appearance January 11, with the arrival at the Mississippi Quarantine Station, of the emigrant steamship Nurnburg, from Bremen, having on board 85 crew and 173 passengers. The patient, a woman, and a steerage passenger, was attacked in mid-ocean. The presence of this case of small-pox on the steamship Nurnburg was telegraphed from the Quarantine Station by Dr. J. F. Finney to the President of the Board of Health. Orders were immediately issued for the transference of the patient and isolation in the Small-Pox Hospital; vaccine virus was dispatched; all on board were vaccinated, the officers, crew and passengers, by the Quarantine Physician. One hundred and one of the number vaccinated (257) took the vaccine disease, thus showing their susceptibility to the variolous poison.

The steamship Nurnburg was thoroughly cleansed and fumigated, and held at the Mississippi Quarantine Station for twenty-one days before being allowed to come to New Orleans.

The small-pox was arrested by these measures, and not a single case occurred at the Quarantine St ion on the vessel, or amongst her crew and passengers after her arrival.

The next case of small-pox occurred in the Parish Prison. As soon as it was manifested, the patient was isolated from other prisoners, every one of whom were vaccinated by order of the President of the Board of Health, and the prison was subjected to fumigation and cleansing, under the supervision of the Sanitary Inspector of the Board of Health for the Second District. The disease was arrested, and no other case occurred amongst the large number of prisoners confined in the Parish Prison.

The rule of the Board of Health with reference to the vaccination of school children was rigidly enforced.

The next case occurred in the month of February, on the twenty-third; and the third case nearly a month afterwards, on the twenty-second of April, and was brought to the city by the towboat McDonald. Cases were brought to the city from Grand Lake and Cincinnati, on the twenty-sixth, twenty-seventh and twenty-eighth of April.

All these cases were removed to the Small-Pox Hospital, and the premises were fumigated and the citizens in the infected localities were vaccinated.

One case was removed from the Bark Pablo to the Small-Pox Hospital on the first of May.

By measures instituted by the Board of Health, the disease was again completely arrested and stamped out, until the ninth of November, when a case was reported at the Charity Hospital, having come from Point Celeste, Plaquemine Parish, La.

One of the assistants of the Charity Hospital was attacked with it on the twenty-first; on the twenty-eighth a case was brought through quarantine concealed in the hold of the steamship Hutchinson, of the line controlled by Messrs. Charles A. Whitney & Co.

Six cases of Small-Pox were reported to the Board of Health in November and twelve in December.

Of the twenty-six cases reported in 1881, sixteen were transferred to the Small-Pox Hospital; six terminated fatally.

During the months of March and April every department in the public schools was visited, and the arms of the pupils carefully inspected. Those showing evidences of improper vaccination were directed to be revaccinated.

Dr. Joseph Holt, Inspector of the First District, alone, vaccinated 320 school children.

In the First District one case of small-pox was discovered on the Spanish bark Pablo Sinsat, at Post No. 33, head of Market street.

The patient, a sailor, was removed immediately to the Small-Pox Hospiral, and thorough and repeated disinfection and fumigation were enforced.

The crew had already been vaccinated, and they therefore escaped.

The first case of small-pox, in the Third District, occurred as early as the twenty-third of February, in the person of R. Rulet, white, residing on Tricou street, near the United States Barracks; the case was a light one, and the patient recovered. The second case reported was that of Charles Young, twenty-three years of age, white, residing at No. 5 Mandeville street.

These were the only cases which originated in the Third District.

In this district, as in all others, by order of the President of the Board of Health, the yellow flag was displayed upon every house in which a case of small-pox occurred; the neighbors were informed of the appearance of small-pox in their immediate vicinity, and vaccination and re-vaccination were advocated as the only prevention.

In all cases, not only the room, but the entire house, was fumigated.

During the entire year sixteen cases of small-pox were treated at the Hayes Hospital, in the Third District.

In the Fourth District the only case of small-pox reported during 1881 was a medical student who contracted the disease in the Charity Hospital, from which institution not less than nine cases were removed to the Small-Pox Hospital, the disease having been contracted in the Eastern, Western and Northern States.

This case occurred at 216 Josephine street, in a crowded locality, and was treated by the President of the Board of Health; the premises were fumigated and disinfected, and free vaccination was offered to every citizen.

No other case occurred or was reported in the Fourth District during 1881.

Owing to the prevalence of small-pox in the Northern, Eastern and Western States, the disease continued to be introduced into New Orleans in a continuous stream.

After its appearance in the cities, towns, villages and plantations along the Mississppi river, the number of cases increased as they were introduced, and at the same time the United States Government was without any hospital for the isolation and treatment of small-pox cases.

Early in 1882, the President of the Board of Health, after a careful inspection of the Small-Pox Hospital, urged the Board of Health to take the most vigorous means for the suppression of small-pox, and also urged similar measures upon the Common Council.

The response of His Honor, Mayor Shakspeare, was prompt, intelligent and humane.

In the able report of the Board of Health,drawn up by Drs. F. Formento, Chas. Turpin and J. C. Faget,many important measures were urged by the committee upon the Honorable Common Council ; such as the closure of the Small-Pox Hospital, on account of its location and bad management ; the erection of a suitable hospital for the treatment of contagious and infectious diseases, the proper isolation of patients, disinfection of clothing and bedding, the proper disposition of the dead, the employment of special wagons perfectly covered and cleansed for the conveyance of small-pox patients.

The action of his Honor the Mayor, Joseph A. Shakspeare, for the establishment of a Small-Pox Hospital, as well as the efforts of the Board of Health, were arrested by judicial proceedings.

The following is the record of the cases of small-pox and deaths in the different districts, classified by race, sex and month for the year 1882 :

CASES AND DEATHS OF SMALL-POX IN NEW ORLEANS IN 1882.

Classified according to the District in which they occurred—Color and Sex.

MONTHS.	First District.			Second Distr't.			Third District.			Fourth Distr't.			Fifth District.			Sixth District.			Seventh District			TOTAL.			SEX.		Number of Deaths.		
	W	C.	Total	W.	C.	Total	W.	C.	Total	W.	C.	Total	W.	C.	Total	W.	C.	Total	W.	C.	Total	W.	C.	Total	M.	F.	W.	C.	Total
January	1	3	4	.....	3	3	3	3	6	.....	.....	.....	.....	.....	.....	1	.....	1	.....	.....	.....	5	9	14	9	5	1	5	6
February	.....	8	8	3	1	4	6	10	16	.....	.....	.....	.....	.....	.....	.....	1	1	.....	.....	.....	9	20	29	19	10	3	7	10
March	7	23	30	10	30	40	30	40	70	1	.....	1	4	4	8	....	1	1	.....	1	1	52	99	151	90	61	11	49	60
April	8	28	36	21	33	54	32	47	79	.....	1	1	3	6	9	.....	1	1	.....	.....	.....	64	116	180	107	73	24	48	72
May	10	19	29	17	37	54	35	67	102	1	.....	1	2	3	5	.....	3	3	.....	.....	.....	65	129	194	89	105	17	52	69
June	11	7	18	17	39	56	37	61	98	1	1	2	.....	10	10	1	.....	1	.....	.....	.....	67	118	185	87	98	22	47	69
July	3	4	7	12	9	21	10	13	23	6	4	10	.....	6	6	.....	3	3	.....	.....	.....	31	39	70	40	30	13	18	31
August	.....	10	10	3	2	5	5	17	22	.....	1	1	5	4	9	.....	.....	.....	.....	1	1	13	35	48	25	23	6	12	18
September	.....	3	3	1	3	4	5	14	19	.....	.....	.....	2	4	6	.....	.....	.....	.....	.....	.....	8	24	32	13	19	1	14	15
October	.....	16	16	.....	1	1	5	20	25	1	.....	1	.....	1	1	.....	.....	.....	.....	1	1	6	39	45	20	25	1	15	16
November	7	13	20	.....	.....	.....	1	12	13	.....	3	3	.....	.....	.....	.....	.....	.....	.....	5	5	8	33	41	16	25	3	8	11
December	25	17	42	2	1	3	12	19	21	21	15	36	.....	.....	.....	.....	.....	.....	.....	2	2	60	44	104	50	54	14	24	38
	72	51	223	86	159	245	181	313	494	31	25	56	16	38	58	2	9	11	.....	10	10	388	705	1093	565	528	116	299	415

The Board of Health,as at present organized, has offered free vaccination during the years 1880, 1881, 1882, 1883.

The following data illustrate the operations of the Board of Health with reference to free vaccination performed by the Sanitary Inspectors of the Board of Health during the years 1881, 1882, 1883:

1881		1,370
1882		4,725
1883	First nine months	5,549
	Total free vaccinations	11,644

Eleven thousand six hundred and forty-four citizens of New Orleans have been vaccinated free of charge by the Sanitary Inspectons of the Board of Health during the years 1881, 1882 and 1883, first nine months.

Each and every citizen of New Orleans has had the opportunity of free vaccination at the hands of the officers of the Board of Health.

In accordance with the organic acts of the Legislature of 1882, about one hundred and seventy physicians have registered at the office of the Board of Health up to July 1, 1883.

The physicians of New Orleans number at least 225, or about one physician to every 1000 inhabitants.

Without doubt a large number of vaccinations have been performed by the physicians of New Orleans, many of which have been gratuitous.

The six sanitary officers of the Board of Health have performed, during the present small-pox epidemic, 11,644 free vaccinations ; or an average of 1940 vaccinations to each inspector.

If the physicians of New Orleans had performed one-half the vaccinations, say about 1000 each, then they would amount to about 225,000.

We have no means of ascertaining the exact number of vaccinations, but from an inspection of the orphan asylums, houses of refuge, educational institutions and the Parish Prison in this city, conducted by the President of the Board of Health, during a period of fourteen days, May 31 to June 14, 1883, it was established :

1. That in the period mentioned not a case of small-pox existed in any of these institutions.

2. During the years 1882, 1883, only four cases appeared; two prisoners, one employe and one orphan were attacked by small-pox in the twenty-six institutions specified ; of these cases of small-pox, four in number, all recovered.

3. The President of the Board of Health ascertained, upon personal inspection, that every one of these inmates of these twenty-six institutions had been vaccinated by the appointed physicians.

4. Amongst four thousand three hundred and thirty-five inhabitants of the various charitable institutions of New Orleans, only one in one thousand and eighty-three suffered from small-pox, and not one died during 1882 and 1883.

5. The escape of these citizens and inmates of the charitable institutions of New Orleans, was due to the faithful performance of vaccination by the physicians of New Orleans.

It is but fair to conclude that the physicians of New Orleans have been equally faithful in vaccinating the families under their charge.

We conclude further, that the vast proportion of the population of New Orleans has been properly and thoroughly vaccinated by the medical profession.

Small-pox has been confined chiefly to the negro race and to the destitute whites.

This conclusion is shown by the large number of deaths reported by the coroner, these victims of this foul pestilence having perished without medical attendance.

Shortly after the organization of the Common Council, in accordance with the provisions of the charter granted by the General Assembly of 1882, the sanitary necessities of New Orleans were urged by the President of the Board of Health upon this body, in accordance with the organic acts of the General Assembly of 1855, 1858, 1870, 1877 and 1882.

The subject of small-pox and its isolation, the necessity of regulating funerals, the erecttion of a small-pox hospital and all similar subjects, were urged, but without avail, upon the attention of the Mayor and Common Council.

The labors of the Board of Health have been fully recorded in the report to the General Assembly of 1882 and the first six months of 1883.

CASES OF SMALL-POX REPORTED TO THE BOARD OF HEALTH.

January 1 *to September* 30, 1883, *classified according to Districts in which they occurred.*

MONTHS.	1st District			2d District.			3d District.			4th District.			5th District.			6th District.			7th District.			TOTAL CITY.		
	W.	C.	Total	W.	C.	Total	W.	C.	Total	W.	C.	Total	W.	C.	Total	W.	C.	Total	W.	C.	Total	W.	C.	Total
January	37	56	93	18	30	48	23	18	41	17	23	40	2	....	2	5	3	8	1	5	6	103	135	238
February	34	50	84	37	42	79	38	51	89	14	18	32	2	2	4	7	5	12	1	9	10	133	177	310
March	52	65	117	75	104	179	97	110	207	40	18	58	5	9	14	27	10	37	....	7	7	296	323	619
April	63	74	137	84	110	194	117	180	297	32	18	50	9	25	34	34	21	55	1	2	3	340	430	770
May	41	62	103	41	61	102	105	97	202	25	13	38	16	54	70	11	4	15	....	1	1	239	292	531
June	13	67	80	16	41	57	31	69	100	18	12	30	35	44	79	10	4	14	....	1	1	123	238	361
July	17	27	44	13	10	23	12	11	23	21	11	32	15	15	30	10	14	24	1	....	1	89	88	177
August	6	14	20	8	18	26	10	5	15	22	11	33	3	30	33	4	6	10	6	....	6	59	84	143
September	5	9	14	6	9	15	3	4	7	3	5	8	1	23	24	..	..	..	2	2	4	20	52	72
	268	424	692	298	425	723	436	545	981	192	129	321	88	202	290	108	67	175	12	27	39	1402	1819	3221

DEATHS BY SMALL-POX

From January 1, 1883, *to October* 1, 1883.

W.	C.	TOTAL.
24	52	76
48	83	131
72	149	221
102	159	261
80	95	175
53	96	149
44	40	84
31	36	67
12	29	41
466	739	1205

DEATHS BY SMALL-POX CLASSIFIED AS TO DISTRICTS.

MONTHS.	1st District.			2d District.			3d District.			4th District.			5th District.			6th District.			7th District.			TOTAL.			In Hospital.
	W.	C.	Total	W.	C.	Total	W.	C.	Total	W.	C.	Total	W.	C.	Total	W.	C.	Total	W.	C.	Total	W.	C.	Total	
July	11	17	28	7	7	14	5	3	8	5	2	7	12	8	20	3	3	6	1	.....	1	44	40	84	17
August	5	14	19	6	6	12	5	1	6	9	5	14	3	9	12	1	1	2	2	.....	2	31	36	67	12
September	3	8	11	5	9	14	2	.....	2	1	.....	1	.....	11	11	.....	.....	.....	1	1	2	12	29	41	6
	19	39	58	18	22	40	12	4	16	15	7	22	15	28	43	4	4	8	4	1	5	87	105	192	35

The labors performed under the direction of the President of the Board of Health for 1883 by the sanitary inspectors are fully unfolded in the following reports :

OFFICE SANITARY INSPECTOR, FIRST DISTRICT,
New Orleans, October 15, 1883.

Joseph Jones, M. D., President Board of Health :

Sir—In the daily papers of late, as well as in the proceedings of the New Orleans Auxiliary Sanitary Association on the eleventh instant, the small force of the Board of Health available for sanitary purposes has been much dwelt upon, and especially so in connection with the stamping out of small-pox in this city. I would like to take advantage of this opportunity to say a few words in behalf of the officers of your honorable Board, and assert that it is no fault of theirs that small-pox still lingers in our midst, and that the force is an efficient one, and does all in its power.

It is certainly true that in an epidemic, as in the past winter months, the available force of sanitary policemen is taxed to the utmost, but not to such an extent as might be inferred or commonly believed.

The trouble is not that these men cannot attend to an epidemic, but in addition to the regular house-to-house inspections, and the latter work is usually deferred to a more favorable opportunity, complaints may be attended to which comprise any serious nuisances.

In the First District, for instance, two officers looked after small-pox, and one officer to nuisances in general. The force was, therefore, adequate for all practical purposes. A large force is not necessary in any district to attend to infectious and contagious diseases, even when very prevalent. What is essential, is that the force be composed of conscientious and trustworthy men—one good man is worth a dozen poor ones. This city may never have such a metropolitan force as New York boasts of, and be able to station a policeman on every infected square to prevent ingress to or egress from flagged houses ; nor is that necessary, in my opinion, provided that the men are competent. I have been connected with the Board of Health of this city and State for the past eight years, and the present organization of the inspectors and policemen is as thorough and reliable as any I have known. I will illustrate my remarks by mentioning the labors of officers E. Bohner and Geo. Zeller, during the past nine months of the present year.

The work of looking after small-pox and attending to complaints was placed in their hands, and I was never disappointed in the trust. The fact of so little complaint concerning the disease at our hands, appearing in the reporters' columns of the papers, is self-evident, and sufficient to support my views. These officers kept every infected house under surveillance after flagging, and in this way discovered concealed cases repeatedly, and also cases not reported by the attending physician. The disease was followed up closely, and known in the district as on a map, every infected premise was thoroughly disinfected and the rooms fumigated, at the earliest moment, and the bedding and covering and wearing apparel either destroyed on the spot or conveyed to the vicinity of the Small-Pox Hospital on Hagan Avenue, and there burned. Cases not properly isolated, or in attendance of a physician, were sent to the hospital. This was often done at the risk of these men, as friends and relations would often object. In a very few instances did the disease re-occur after fumigation and disinfection, unless the case occurred in a tenement house, where many families lived in adjoining rooms. The disease has been stamped out in one locality after another, until it is about extinct in this district. I have made it a rule to order the owners of tenement houses so infected, to have them whitewashed throughout, including the outstanding wood-work. What is said for the First District applies to the others. It is a common thing for our officers to act as pall-bearers and pseudo-undertakers for the poor, forsaken wretches dying of this disease. The public, of course, is unaware of the extra exertions to stamp out the disease in any locality. I have held the opinion always that removal to the hospital stamps out the disease in any locality even more effectually than vaccination, with less danger of its subsequent spread. In answer to your communication of the thirteenth instant, I will give a table of the work done in this district since the beginning of the year. I may add, that vaccination has been offered to persons residing in the neighborhood of small-pox cases, but with indifferent success. Nothing short of compulsory laws will ever accomplish the purpose.

Yours respectfully,

R. A BAYLEY, M. D.,
Sanitary Inspector, First District.

[Table Attached.]

Table showing the statistics of small-pox in the First District since January 1, 1883, to date, including inspection work, etc.:

No. of cases of small-pox	640
No. of cases sent to hospital	167
No. of deaths from small-pox	186
No. of cases after fumigation	54
No. of premises fumigated	532
No. of premises disinfected	532
No. of premises where clothing was destroyed	132
No. of house-to-house inspections	8742
No. of re-inspections	5481
No. of nuisances abated	2100
No. of vaccinations	650
No. of vaccination certificates	875

OFFICE SANITARY INSPECTOR, SECOND DISTRICT,
New Orleans, La., October 18, 1883.

Jeseph Jones, M. D., President Board of Health:

Sir—I respectfully submit this report on the subject of small-pox, in answer to your communication of the thirteenth inst., on the following questions:

1. Number of cases of small-pox which have occurred in your district from January 1, 1883, to October, 1883: 586 cases of small-pox; 225 whites, 361 colored, have been reported to this office, or found out by the sanitary officers and police.

2. Number of deaths 342; 107 whites and 165 colored, giving a percentage of more than one death to two of cases reported, showing that there is a great neglect in reporting of cases on the part of physicians, and also that many cases are treated without physicians, in order to escape being reported.

3. Number of premises, rooms, etc., fumigated for small-pox: 345 premises were fumigated for small-pox.

4. Mode of dealing with small-pox, etc.: when a case of small-pox is reported to this office or found out, a yellow flag is immediately nailed to the house occupied by the patient. This is the best practical means of isolation, and also warns the neighborhood to provide themselves with vaccination at the earliest moment. This vaccination is offered by us to all infected localities and neighborhood where small-pox exists.

5. Number of cases sent to hospital: only those are sent who are willing to go, or have no person to take care of them; ten were sent to the Small-Pox Hospital.

Give number and a detailed statement of your efforts to suppress small-pox in your district; also number of vaccinations from January, 1883, to October, 1883.

When cases are reported well, or when scabs have fallen off, the premises are thoroughly fumigated, and the clothes which have been used by patient washed in boiling water, and sometimes burnt, with the consent of their owners.

The number of cases reported is so much greater than that of fumigations because, as a rule, many cases occur in the same localities; as an instance, thirty-one cases occurred in four houses on St. Peter street. I vaccinated from January to October, 1883, 1548 persons, 909 whites and 639 colored; 1040 were secondary, and 508 primary, 563 were vaccinated at the office of the Board of Health and 965 at their homes and public institutions.

There were no applications for certificates of vaccination this year.

Three thousand three hundred and thirty house-to-house inspections from January to October 1883; 1195 nuisances were abated.

Respectfully yours,

C. FAGET, M. D.,
Sanitary Inspector, Second District.

SMALL-POX IN SECOND DISTRICT.

No. of cases of Small-Pox in the Second District from January 1, 1883, to September 30, 1883.

January.		February.		March.		April.		May.		June.		July.		August.		September.		TOTAL.		Total W. & C.
W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	
11	30	36	41	69	82	65	76	43	57	16	40	10	10	6	16	9	9	225	361	586

DEATHS FROM SMALL-POX FROM JANUARY 1, TO SEPTEMBER 30.

JAN.		FEB.		MARCH		APRIL.		MAY.		JUNE.		JULY.		AUG.		SEPT.		TOTAL.		Total
W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C	W.	C.	W.	C.	W.	C.	W. & C.
.....	11	11	18	23	36	27	38	17	21	10	20	8	7	6	6	5	8	107	165	342

PERSONS VACCINATED FROM JANUARY 1, 1883, TO SEPTEMBER 30, 1883.

JAN.		FEB.		MARCH		APRIL.		MAY.		JUNE.		JULY.		AUG.		SEPT.		TOTAL.		Total
W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W. & C.
52	119	193	134	306	187	278	142	39	22	10	12	12	10	9	7	10	6	909	639	1548

NUMBER OF PREMISES FUMIGATED FOR SMALL-POX.

JAN.	FEB.	MARCH	APRIL.	MAY.	JUNE.	JULY.	AUG.	SEPT.	TOTAL.
14	38	64	64	62	44	28	20	11	345

Number of cases of small-pox sent to Small-Pox Hospital from January 1, to September 30, 1883, 10.

OFFICE SANITARY INSPECTOR, THIRD DISTRICT,
New Orleans, October 14, 1883.

Joseph Jones, M. D., President Board of Health:

Sir—In compliance with your communication of the thirteenth inst., I beg leave to report as follows, to the data contained.

1. From January 1, 1883, to October 13, 1883, 887 cases of small-pox have been recorded at the office: 463 males and 424 females; 443 white, 444 colored; 348 adults over sixteen years of age and 539 children under sixteen years of age. For further particulars please see Table 1 accompanying this report.

2. The total number of deaths from that disease in the Third District during the same length of time is 284; whites 149, colored 135; please see Table 1.

3. 2059 rooms were fumigated and 877 premises were disinfected, (See Table 2).

4. As regards the mode of dealing with small-pox, the isolation, disinfection and fumigation of premises and transfers to hospital, we have conformed to the rules and orders given by the President of the Board of Health, viz: As soon as a case was reported at our office, our inspector made it his duty to visit the patient at once in order to ascertain for himself the reality and severity of the case; this being done the yellow flag was immediately displayed, free vaccination offered and urged as much as possible to the occupants of the infected house, strict orders given to prevent visitors from entering the premises, free vaccination offered to all neighbors, warnings given as to the dangers of attending the disease and advice given for their protection against the malady.

At the termination of each case, the house where the case had occurred was thoroughly fumigated with sulphur for at least four hours; all articles that served for the patients during illness were either destroyed or boiled for at least twelve hours in a solution of carbolic acid, privies were ordered emptied and notice served to that effect; the premises thoroughly disinfected with a solution of copperas and carbolic acid. It may be well to state here that your inspector and his sanitary officers, Messrs. J. Nowell and H. F. Evans, also during six weeks, Messrs. Taylor and Wittie, officers of the city police, who were detailed to the Board of Health during that time, are the only persons who have attended to the enforcement of the rules and regulations of the Board of Health in regard to small-pox in the Third District.

All cases that were not attended by a regularly practicing physician or where their management was bad, were sent to the hospital in the charity wagons in charge of the city.

5. Thirty-five cases were sent to the hospital by our special order, ten whites, and twenty-five colored.

Quite a number of cases of small-pox having at their own request been transferred to the hospital (we do not count this in our total thirty-five), having already given in section four a detailed statement of our efforts to suppress small-pox, I will, nevertheless, put to account several reports on the management of the Luzenburg Hospital, which probably have had something to do with the closure of this establishment, the largest focus of infection and contagion in the city.

It may be well to state here that on the twenty-sixth day of September, 1883, accompanied by Mr. A. De Fonblanque, British Consul, and my officer, Mr. J. Nowell, a general and thorough inspection of the hospital was made by your inspector. All articles of bed-clothing, wearing apparel, curtains etc., belonging to the patients that were soiled or could carry contagion were set apart and burnt the following day by the officers under my supervision.

All the wards, public and private, the apartments of the late Dr. Hayes, the kitchen, washing-rooms, were thoroughly fumigated and disinfected; the privies were first thoroughly disinfected and then notice to have them emptied given and served.

6. Total number of house-to-house inspections from January 1, 1883 to October 13, 1883, 7023. For further particulars please see Table 2.

7. Total number of persons vacinated during the same length of time, 1069.

8. Total number of nuisances abated since January, 1872. For particulars see Table Number 2.

9. It is impossible for me to give a definite and correct account of the number of certificates issued to school children, as I have kept no memoranda of those given, but I may, however, safely say, from 250 to 300 such certificates were given by me since January 1, 1883; all of which is most respectfully submitted.

EUG. J. MIOTON, M. D.,
Sanitary Inspector, Third District.

TABLE 1.

SHOWING NUMBER OF CASES OF SMALL-POX

From January 1 to October 13, 1883, in the Third District.

MONTHS.	Males.	Females.	Whites.	Colored.	Adults.	Children.	Recovered.	Died.		Sent to Hospital.		Number of Rooms Fumigated.	Premises Disinfected	Total Cases	Remarks.
								W.	C.	W.	C.				
January	16	15	21	10	16	15	23	8	.....	.....	.....	75	31	31	
February	36	37	38	35	53	40	51	12	10	1	2	141	73	73	
March	112	103	107	108	92	123	160	21	34	5	12	302	215	215	
April	126	103	104	125	73	156	150	38	41	.....	5	514	229	229	
May	92	95	104	83	77	110	135	27	25	2	2	475	187	187	
June	53	44	36	61	35	62	45	30	22	1	3	304	97	97	
July	17	12	18	11	11	18	21	6	2	.....	.....	165	29	29	
August	4	10	10	4	8	6	8	5	1	1	1	62	14	14	
September	7	2	4	5	2	7	7	2	.....	.....	.....	19	9	9	
October	.....	3	1	2	1	2	3	.....	.....	.....	.....	2	3	3	3 cases on hand Oct. 13, 1883.
Total	463	424	443	444	348	539	603	149	135	10	25	2059	887	887	

TABLE 2.

HOUSE-TO-HOUSE INSPECTION.

Premises inspected	7023	No. of squares disinfected	110
Premises occupied—whites	3399	No. of premises disinfected	887
Premises occupied—colored	1326	No. of rooms fumigated	2059
Nuisances abated	1872	No. of persons vaccinated	1069

E. J. MIOTON, M. D., Inspector.

OFFICE SANITARY INSPECTOR, FOURTH DISTRICT,
New Orleans, October 18, 1883.

Joseph Jones, M. D., President Board of Health:

Sir—I herewith submit the following report of small-pox in the Fourth District from January 1883, to October, 1883.

The method adopted to prevent the spread of this disease has been that so urgently recommended by yourself.

As soon as notified of a case of small-pox, the house is immediately flagged in a conspicuous place, and the case isolated as much as possible; free vaccination is offered to all persons within a radius of four squares. In case of death all gatherings around the body were prohibited, and also large attendance at the funerals.

The rooms were thoroughly disinfected by burning sulphur for from ten to twelve hours. The vaults are emptied and disinfected with sulphate of iron and carbolic acid. The rooms are white-washed, and when practicable, bedding and clothing were destroyed.

Free vaccination was offered to several colored congregations, but they declined to avail themselves of the opportunity.

During the past two months but few persons have presented themselves for vaccination at this office.

Small-pox cases were only transferred to the Small-Pox Hospital, when found to be in want; of these there were twenty-nine.

As a rule, they object strongly to being sent to the hospital; they consider it death.

At the present time, we have not a single case of small-pox in the Fourth District.

Very Respectfully,

W. R. MANDEVILLE, M. D.,
Sanitary Inspector, Fourth District.

SPECIAL REPORT

OF

W. R. MANDEVILLE, M. D., SANITARY INSPECTOR, FOURTH DISTRICT,

From January 1, to October 13, 1883, on Small-Pox.

Number of cases	326
Number of deaths	99
Number of premises fumigated	225
Number of rooms fumigated	573
Number of yellow flags displayed	225
Number of cases sent to hospital	29
Number of house-to-house inspections	4906
Number of nuisances abated	1425
Number of free vaccinations	663
Number of certificates issued	698

W. R. MANDEVILLE, M. D.,
Sanitary Inspector, Fourth District.

New Orleans, October 16, 1883.

OFFICE SANITARY INSPECTOR, FIFTH DISTRICT,
New Orleans, October 13, 1883.

Joseph Jones, M. D., President Board of Health;

Sir—I respectfully submit herewith my report from January to October, 1883:

Enclosed is a tabulated report of cases of small-pox in the Fifth District, with the number of deaths, etc., as requested by the Honorable President of the Board of Health; also a statement of the efforts to suppress small-pox in the Fifth District, isolation, disinfection, fumigation, etc., yellow flags and cases sent to the hospital.

I herewith state that as much as it was in my power to prevent gatherings at funerals or communication, from house-to-house where there was a case of small-pox, I have done so; among the white class I was able to make them understand the necessity of such a measure, to prevent the spread of the disease, but with the negroes it was nearly useless, as they will not understand.

I will also state, that in every house where there was a case of small-pox reported, a yellow flag was exhibited on the house visited by me, and if there was no physician in attendance or nurse, or unable to be provided for, the case was sent by me to the hospital. I have thus sent, as the report will show, four whites and nineteen colored; total twenty-three.

I will state, that in every house where a case of small-pox has been, the premises were entirely disinfected by sulphur and carbolic acid, the privy ordered to be cleaned and free vaccinnation offered, but in many cases refused. I have also destroyed in thirty-two premises, bedding, and clothing, etc.

Enclosed herewith is also a statement of house-to-house inspections, and total number of nuisances abated from January 1 to October 13, 1883; also a table, showing free vaccinnation in the Fifth District.

Very respectfully, your obedient servt,

A. M. BERET, M. D.,
Sanitary Inspector, Fifth District.

TABLE 3.

FROM JANUARY 1 TO OCTOBER 13, 1883,

Showing Number of Cases of Small-Pox in Fifth District.

MONTHS.	No. of Cases		No. Sent to Hospital.		Flags.	Died.		No. of Rooms Fumigated	No. of Premises Disinfected
	W.	C.	W.	C.		W.	C.		
January	2	.....	1	.....	2	.....	.....	4	2
February	3	1	1	.....	4	.....	.....	10	4
March	6	7	1	3	3	.....	.....	24	13
April	9	25	3	8	31	.....	4	60	31
May	15	55	8	15	59	3	1	120	59
June	35	44	10	16	67	.....	7	148	67
July	27	25	3	6	29	1	2	71	32
September	1	2	1	1	18	.....	1	30	18
October	1	4	.....	1	4	.....	1	14	4
Total	116	206	39	66	259	4	19	520	259
Grand total	322		105		259	23		520	259

A. M. BERET, M. D.,
Sanitary Inspector, Fifth District.

Nuisances abated ..... 595 | Inspections made 2425

Total vaccinations—white 78
Total vaccinations—colored 321
Total certificates given 69

Grand Total Vaccinations 399

OFFICE SANITARY INSPECTOR SIXTH AND SEVENTH DISTRICTS,
New Orleans, October 15, 1883.

Joseph Jones. M. D., President Board of Health:

Sir—I respectfully submit to you the following report of the sanitary condition of the Sixth and Seventh Districts, commencing January 1, 1883, and ending October 13, 1883;

Cases of small-pox in both districts	whites	117
	colored	87
Cases sent to hospital	whites	7
	colored	22
Deaths,	whites	33
	colored	27
Recovered,	whites	77
	colored	38
Persons vaccinated,	whites	497
	colored	723
Certificates issued		835
Number of premises where small-pox existed		139
Premises disinfected and fumigated		221
Rooms disinfected and fumigated		491

At all places where small-pox existed we placed a yellow flag on the premises, in conspicuous positions, so as to warn the people of the existence of this disease. The surrounding neighborhood was visited, and free vaccination offered to all the citizens.

Isolation was made as complete as possible; houses were fumigated with burning sulphur, which was left in the room from ten to twelve hours.

Patients were transferred to the Small-Pox Hospital in public wagons, provided for that purpose. Circulars containing the instructions of the Board of Health in regard to cleanliness, etc., were distributed freely; also disinfectants were distributed free.

We have visited house-to-house and solicited vaccination. In cases where it was impossible to isolate, I sent them immediately to the hospital.

Total nuisances abated, 545; inspections and re-inspections, 7981.

This work has been accomplished with only one officer, who has to leave one district for the other in case of an emergency, and there is very much valuable time lost in so doing. I also forward you a complete report of sanitary work in the Sixth and Seventh Districts, from January 1, 1883, to October 13, 1883.

I am, respectfully, yours,

WM. RYAN, M. D.,
Sanitary Inspector Sixth and Seventh Districts.

HOUSE-TO-HOUSE INSPECTION IN THE SIXTH DISTRICT,

From January 1, *to October* 13, 1883.

Premises inspected		2695
Number of persons occupying premises—white	5440	
Number of persons occupying premises—colored	1559—6999	
Inspections made	3761	
Re-inspections	561—4322	
Nuisances abated		465
Premises disinfected		200
Premises fumigated		200
Rooms fumigated and disinfected		429
Number of cases of small-pox—white	110	
Number of cases of small-pox—colored	10— 170	
Number of premises where small-pox existed		127
Number of cases sent to hospital—white	7	
Number of cases sent to hospital—colored	15— 22	
Number of deaths from small-pox—white	28	
Number of deaths from small-pox—colored	18— 46	
Number recovered from small-pox—white	75	
Number recovered from small-pox—colored	27— 102	
Persons vaccinated—white	344	
Persons vaccinated—colored	389 —733	
Number of certificates issued		531

WM. RYAN, M. D.,
Sanitary Inspector, Sixth District.

HOUSE-TO-HOUSE INSPECTION IN THE SEVENTH DISTRICT,

From January 1, *to October* 13, 1883.

Premises		987
Persons occupying same—white	1826	
Persons occupying same—colored	2479—4305	
Inspections made		3571
Re-inspections made		88
Nuisances abated		80
Premises disinfected		21
Premises fumigated		21
Rooms fumigated		62
Cases of small-pox—white	7	
Cases of small-pox—colored	27 —34	
Number of premises where small-pox existed		12
Number of cases sent to hospital—colored		7
Number of deaths—white	5	
Number of deaths—colored	9— 14	
Recovered—white	2	
Recovered—colored	11— 13	
Vaccinated—white	153	
Vaccinated—colored	339— 492	
Certificates issued		324

WM. RYAN, M. D.,
Sanitary Inspector Sixth and Seventh Districts.

From the preceding reports of the Sanitary Inspectors of the Board of Health of the State of Louisiana we obtain the following general results as to the operations, designed more especially for the arrest of small-pox.

In the First District 640 cases of small-pox, with 186 deaths, were reported; 167 cases of small-pox were sent to the Small-Pox Hospital.

532 premises were disinfected and fumigated; clothing and bedding destroyed in 132 premises.

The inspections and re-inspections numbered 14,223; and 2100 nuisances were abated; the vaccinations numbered 650, and 875 certificates were issued.

Vaccination has been freely offered to all persons in the vicinity of small-pox cases.

By the energetic measures instituted by Dr. Bayley the small-pox has been extinguished in the First District of New Orleans.

In 1880, the population of the First District was: white, 43,319; colored, 14,126; total, 57,445.

At the present time, the population of this District is not less than 60,000, and it probably includes within its area, more wealth engaged in

commercial and mercantile pursuits than in all the other Southern cities, exclusive, perhaps, of Baltimore.

But one case in the entire First District, October 24, 1883.

Second District—586 cases of small-pox; 225 white and 361 colored; 342 deaths; 167 whites 165 colored.

345 premises fumigated; 10 cases sent to hospital; vaccinated 909 whites and 639 colored; total 1548; 4297 house-to-house inspections, and 1195 nuisances abated.

Third District—887 cases small-pox; whites 443, colored 444; deaths 284; whites 149 and colored 135; 2059 rooms were fumigated, 887 premises disinfected; 35 cases small-pox sent to hospital; 7023 house-to-house inspections; vaccinations 1069; nuisances abated 1873. Only three cases of small-pox in this District at present time, October, 1883.

Fourth District—At the present time not a case of small-pox in this District; total number of cases 326; deaths 99.

Premises fumigated, 224; number of rooms fumigated, 573; yellow flags displayed, 225; cases sent to hospitel, 29; house-to-house inspections, 4006; nuisances abated, 1425; number of vaccinations, 663; certificates issued, 638.

Fifth District—cases small-pox, 322; whites 206, colored 116; deaths 105; whites 66, colored 39; number of flags 259, sent to hospital, 19 whites and 4 colored; total, 23; rooms fumigated, 540; premises disinfected, 259; house-to-house inspections, 3840; nuisances abated, 595; total vaccinations, 399; certificates issued 69.

Sixth and Seventh Districts—Cases of small-pox, 204; white 117, colored 87; sent to hospital 29; deaths, white 33, and colored 27; total 60; certificates issued, 835; vaccinations, white 497; colored 723; premises fumigated, 491; nuisances abated 545; inspections 7981.

From the preceding facts we deduce the following conclusions:

1. Small-pox has been arrested in New Orleans by the measures devised and executed by the Board of Health of the State of Louisiana.

2. In the efforts to isolate and arrest small-pox during 1881, 1882 and 1883, the main difficulties were due to the following causes:

a. The large number of colored inhabitants and poor whites, who disregarded and refused vaccination.

b. The fact that the prevalence of the disease was due chiefly to filthy habits and neglect of vaccination is conclusively shown by the large number of deaths reported by the coroner.

c. The constant introduction of the disease by strangers from the surounding States and cities.

3. If the statistics be carefully examined it will be seen that the most marked increase of the disease was concurrent with the movement of the great staples of the valley and the congregation of large masses of people in this city from surrounding States.

The decrease of small-pox during the hottest months was due to the efforts of the officers of the Board of Health at a time when commerce and trade was at the minimum.

4. The small-pox increased in proportion to the prevalence of the disease in surrounding States and cities and on the plantations along the banks of the Mississippi River.

5. New Orleans will be perpetually exposed to the introduction of small-pox when the disease prevails in the Mississippi Valley.

6. The entire subject of small-pox and vaccination in Louisiana is of paramount importance and should engage the earnest attention of the General Assembly at its next regular meeting in June, 1884.

The preceding report was read at the regular meeting of the Board of Health of the State of Louisiana, October 25, 1883.

VIEWS OF HON. I. N. MARKS.

Mr. Marks reviewed at length the efforts of the Board of Health for the suppression of small-pox, and called attention to the vast amount of valuable sanitary work performed by the medical officers in the various districts.

The free vaccinations performed by the sanitary inspectors had reached 11,644, and had conferred great benefits upon the citizens; and if persons had neglected vaccination in New Orleans it was not the fault of the Board of Health, for vaccination had been offered freely to all citizens, irrespective of color, race or present or previous condition.

If each physician had accomplished only one-half the work performed by each sanitary inspector of the Board of Health, then we should have had, as shown by the President, at least 225,000 vaccinations.

The assertions emanating from the executive committee of the New Orleans Auxiliary Sanitary Associations were incorrect; every measure, such as the use of small-pox flags, the erection of small-pox hospitals, the conveyance of the sick in wagons devoted specially to this purpose, the isolation of the sick, and the prevention of gatherings at funerals, had been urged, and as far as the means of the Board extended, been exerted by the faithful and zealous officers of the Board of Health from the first appearance of small-pox in 1881.

These remarks, he said, were made because the step lately taken by the Auxiliary Sanitary Association and the appointment by that association of a number of physicians to inspect the various residences and vaccinate all persons not vaccinated, seemed to lead to the impression that the board had not done its duty. The Sanitary Association had appropriated $5000 for that purpose, and begain their labors at the present time, when there is no necessity for such action, for, by referring to the mortuary reports, it will be seen that during the past two weeks only six deaths had occurred by small-pox, and these at the small-pox hospital, showing that there had been no deaths in private practice of physicians. The board and its officers had done their duty, as their reports showed, and that the work done by the sanitary inspectors has met with its just reward by the arrest of small-pox in the city, and deserves commendation on the part of the people.

The following resolutions were offered by Mr. Booth, and adopted:

Resolutions of Hon. Edward Booth with reference to the efforts of the officers of the Board of Health of the State of Louisiana for the suppression of small-pox in New Orleans.

Resolved, That the board have heard read with profound satisfaction the report of its President, giving an outline of its labors and the detailed reports made by Drs. Bayley, Faget, Mioton, Mandeville, Beret and Ryan, respectively medical inspectors of the seven districts of the city, upon the subject of small-pox.

1. As to the methods adopted for its isolation and suppression.
2. As to the difficulties encountered and overcome.
3. As to the enormous amount of careful and systematic work done, and finally the abundant success which, under Providence, has crowned their labors, by a reduction of the weekly mortuary of small-pox from a maximum

of 86 for week ending April 7, 1883, to the present minimum of three for week ending October. 20, 1883, a point which has not been reached since November, 1882.

Resolved, That the board recognize the impossibility of forecasting what the future may have in store for our people, but will not refrain from congratulating the community upon the substantial cessation of small-pox, as well as the entire absence of any form of contagious or infectious disease.

Resolved, That the President and medical staff of the board have merited, and are hereby tendered, at the close of the season, the thanks of the people, as far as the board can express them, and are requested to continue their well-begun work for the absolute eradication of small-pox, trusting for their reward to the appreciation of the beneficiaries, and remembering the appositeness of the maxim that "nothing succeeds like success."

Resolved, That the President be and is hereby authorized and requested to embody in his annual report to the General Assembly of Louisiana the valuable and important facts reported by the medical inspectors, and to make such other use of the same as he shall deem to be for the public interest.

The number of cases of small-pox reported to the Board of Health of the State of Louisiana, during the year 1883, was whites, 1475; colored, 1891; total cases, whites and colored, 3366. The number of deaths from small-pox in New Orleans, during 1883, was whites, 493; colored, 773; total, whites and colored, 1266; the percentage of deaths among whites, was 29.8; among the colored, 24.4; whites and colored, 26.5. The ratio of mortality was without doubt much less, as a large number of the cases were not reported, the failure to report the cases to the Board of Health was attributable in many cases to the poverty of the sick, and the absence of medical attendance. Thus, during the year 1882, 139 deaths from small-pox were reported by the coroner; twenty-one whites and 118 colored. The full significance of this statement is, that during the year 1883, one hundred and thirty-nine persons died of small-pox in New Orleans, who were unable to procure the services of a physician, and that if the deaths be rated as being about one sixth of all the cases of varioloid and variola, then 824 cases which recovered among the poorest citizens received no medical attendance and were consequently not reported.

In the following table, the cases and deaths from small pox reported in New Orleans during 1883, are classified according to districts, months, and races:

CASES AND DEATHS BY SMALL-POX FROM JANUARY 1, 1883, TO DECEMBER 31, 1883.

Months.	First District.						Second District.						Third District.						Fourth District						Fifth District.						Sixth District.						Seventh Dist.					
	Cases.			Deaths.			Cases.			Deaths.			Cases.			Deaths.			Cases.			De'ths			Cases.			De'ths.			Cases.			De'ths			Cases.			De'ths		
	w.	c.	Tot'l.	w.	c.	Tot'l.	w.	c.	Tot'l.	w.	c.	Tot'l.	w.	c.	Tot'l.	w.	c.	Tot'l.	w.	c.	Tot'l.	w	c.	Tot'l.	w.	c.	Tot'l.	w	c.	Tot'l.	w.	c.	Tot'l.	w	c.	Tot'l.	w	c.	Tot'l.	w	c.	Tot'l.
Jan.	37	56	93	9	17	26	18	30	48	...	11	14	23	18	41	9	13	22	17	23	40	4	9	13	2	...	2	1	..	1	5	3	8	1	..	1	1	5	6	..	2	2
Feb	34	50	84	12	18	30	37	42	79	11	17	21	38	51	89	19	36	55	14	18	32	4	7	11	2	2	4	...	...	...	7	5	12	2	2	4	1	9	10	..	3	3
March	52	65	117	10	14	24	75	104	179	21	36	57	97	110	207	26	86	112	40	18	58	7	4	11	5	9	14	..	4	4	27	10	37	8	4	12	..	7	7	..	1	1
April	63	74	137	12	11	23	84	110	194	28	36	64	117	180	297	39	92	131	32	18	50	12	7	19	9	25	34	3	6	9	34	21	55	8	7	15	1	2	3	...	...	...
May	41	62	103	22	29	51	41	61	102	18	22	40	105	97	202	26	25	51	25	13	38	6	..	6	16	54	70	7	18	25	11	4	15	1	1	2	..	1	1	...	...	...
June	13	67	80	9	31	40	16	41	57	9	20	29	31	69	100	12	25	37	18	12	30	7	5	12	35	44	79	15	14	29	10	4	14	1	1	2	..	1	1	...	...	...
July	17	27	44	11	17	28	13	10	23	7	7	14	12	11	23	5	3	8	21	11	32	5	2	7	15	15	30	12	8	20	10	14	24	3	3	6	1	..	1	1	..	1
Aug.	11	19	30	5	14	19	8	16	24	6	6	12	11	7	18	5	1	6	27	11	38	9	5	14	5	27	32	3	9	12	4	4	8	1	1	2	6	..	6	2	..	2
Sept.	5	10	15	3	8	11	8	8	16	5	9	14	4	4	8	2	...	2	4	5	9	1	..	1	2	22	24	..	11	11	...	...	...	...	...	...	2	2	4	1	1	2
Oct	4	4	8	3	5	8	3	7	10	...	1	1	1	3	4	...	...	...	1	...	1	1	..	1	4	16	20	1	4	5	1	..	1	...	...	...	...	6	6	1	1	2
Nov.	1	5	6	2	7	9	1	4	5	1	2	3	...	...	...	...	...	...	1	...	1	..	...	...	15	6	21	11	6	17	...	...	...	...	...	...	4	..	4	1	..	1
Dec.	6	4	10	0	2	2	5	7	12	1	4	5	0	2	2	0	1	1	...	...	...	...	...	...	4	8	12	3	1	4	4	1	5	2	..	2	...	...	...	...	...	...
	284	443	727	98	173	271	309	440	749	107	171	278	439	552	991	143	282	425	200	129	329	56	39	95	114	228	342	56	81	137	113	66	179	27	19	46	16	33	49	6	8	14

No. of Cases up to Dec. 31, 1883—
Whites.....1,475
Colored.....1,891
Total.....3,366

No. of Deaths up to Dec. 31, 1883—
Whites..... 493
Colored..... 773
Total 1,266

From January 1 to May 12, 1883, 152 deaths from small-pox occurred in the Luzenburg Hospital, accredited to the total number of deaths in the Third District.

From May 1 to December 31, 102 deaths occurred in the City Small-pox Hospital, accredited to the total number of deaths in the First District.

A large proportion of the deaths from small-pox occurred among strangers and non-residents of New Orleans, and among the natives of foreign countries, as will be shown from the preceding table, giving the total number of deaths from all causes, and from small-pox, during a period of four years in New Orleans, namely—1880, 1881, 1882 and 1883, classified according to years, months, nativities and races. During the period embraced in the table, the total annual deaths from all causes, and from small-pox, were as follows:

Years.	Deaths, All Causes.			Deaths, Small-Pox.		
	Whites.	Colored.	Total.	Whites.	Colored.	Total.
1880	3,637	1,986	5,623	1	0	1
1881	4,127	2,279	6,406	3	2	5
1882	3,582	2,340	5,922	116	299	415
1883	4,552	2,971	7,523	493	773	1,266
	15,898	9,576	25,474	613	1,074	1,687

During 1880 and 1881, not a single native of Louisiana died from small-pox.

In 1882, of a total death from small-pox of 415, sixty-five were natives of other States of the American Union, 330 were natives of Louisiana, and twenty of foreign countries. Of the natives of other States, two were white and two hundred and sixty-three colored. Of the natives of Louisiana, ninety-fivefive were white and 235 colored.

In 1883, of a total of 1266 deaths from small-pox, 181 were natives of other States, 1011 of Louisiana; seventy-four of foreign countries; of the natives of other states, thirty-four were white, and 147 colored; of the natives of Louisiana, 392 were white, and 619 colored.

Of the 1687 deaths from small-pox during the four years specified, 250 were from other States; whites, thirty-eight, colored, 213; of 1341 from Louisiana, 487 were whites, and 857 colored, the ninety-six from other countries were all white; of the total number of deaths the whites were 613 and the colored 1074.

The difference in favor of Europeans and foreigners generally, was not due solely to differences of population but cheifly to the more perfect and general vaccination of the inhabitants of England, France, Germany and Italy. This table also illustrates the large proportion of fatal cases occurring amongst negroes not natives of Louisana.

YEAR.	MONTHS.	SMALL-POX. TOTAL DEATHS.		NATIVITIES.																		ALL CAUSES. TOTAL DEATHS.		GRAND TOTAL.
				Un'd States		Louisiana.		Germany.		France.		Ireland.		England.		Spain.		W. Indies.		Other For'n Countries.				
		White.	Colored	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	White.	Colored	
1880	May			1																		361	220	581
	Total	1		1																		3,637	1,896	
	Total, 1880																					5,623		
1881	April	1		1																		343	186	529
	May	1														1						450	233	683
	December	1	2		2					1												306	175	481
	Total	3	2	1	2					1						1						4,127	2,279	
	Total, 1881	5		3						1						1						6,406		
1882	January	1	5		1	1	4															282	186	468
	February	3	7		4	3	3															266	151	417
	March	11	49	1	24	7	24	3														256	209	465
	April	24	48		15	19	33	3				1										308	231	539
	May	17	52		3	14	49	2				1										330	259	589
	June	22	47	1	4	19	43			2												335	226	561
	July	13	18		2	12	16	1														288	172	460
	August	6	12		2	5	10	1														267	176	443
	September	1	14		1		13			1												239	161	400
	October	1	15		2	1	13															306	183	489
	November	3	8		2	2	6					1										322	184	506
	December	14	24		3	12	21	1														383	202	585
	Total	116	299	2	263	95	235	11		3		3										3,582	2,340	5,922
	Total, 1882	415		265		330		11		3		3										5,922		
1883	January	24	52	2	14	19	38	3								1			1		2	393	214	607
	February	48	83	4	20	37	60	5		1						1					2	354	253	607
	March	72	149	5	49	56	105	2		3					1						1	389	352	741
	April	102	159	5	23	78	136	8		5		1				1				4		374	339	713
	May	80	95	4	14	67	79	2		3		1						2	1	1	1	388	278	666
	June	53	96	2	15	46	81	2		1		1		1								404	250	654
	July	44	40	5	6	35	34	2				1								1		373	199	572
	August	31	36	1	3	26	33	3		1												310	211	521
	September	12	29	1	2	10	27	1														345	223	568
	October	6	11	2	2	4	9															367	214	581
	November	15	15	1	4	10	11	2		1										1		452	226	678
	December	6	8	2	2	4	6															410	212	622
	Total	493	773	34	147	392	619	36		15		4		1	1	2		2	2	7	4	4,552	2,971	
	Total, 1883	1,266		181		1,011		36		15		4		2		2		4		11		7,523		
Summary	Total w &c	613	1,074	38	212	487	854	47		19		7		1	1	3		2	2	10	4	15,898	9,576	
	Grand Total	1,687		250		1,341		47		19		7		2		3		4		14		25,474		

The following table presents the deaths by small-pox classified according to sex.

In 1880 one death was caused by small-pox in the month of May, the patient was a male; in 1881 one death occurred in April and one death in May, and three deaths in December. Total, five deaths, all males.

Deaths from small-pox in New Orleans, during the years 1882 and 1883, classified according to months and sex:

MONTHS.	1882.			1883.		
	Deaths by Small-pox.			Deaths by Small-pox.		
	Males.	Females	Total.	Males.	Females	Total.
January	6	0	6	37	39	76
February	7	3	10	81	50	131
March	36	24	60	124	99	221
April	45	27	72	154	107	261
May	37	32	69	98	77	195
June	33	36	69	80	69	149
July	17	14	31	49	35	84
August	11	7	18	35	32	67
September	8	7	15	24	17	41
October	10	6	16	9	8	17
November	4	7	11	20	10	30
December	16	22	38	6	8	14
Total	230	185	415	717	549	1,266

Total deaths from small-pox during the years 1880, 1881, 1882 and 1883' 1687; males, 953; females, 734.

The preceding statistics establish the following conclusions:

1. During the years 1880 and 1881, all those who died by small-pox were males, and brought the small-pox to New Orleans from the surrounding States.

2. In the month of February, 1882, the six deaths were all males; during this year, out of a total of 415 deaths caused by small-pox, the males exceeded the females in the proportion of 230 to 185.

3. In 1883, out of a total of 1266 deaths, caused by small-pox, 717 were males, and 549 females.

4. The largest proportion of deaths occurred amongst the male population, although the females in New Orleans outnumber the males. Thus, according to the United States census of 1880, white males 75,692, white females 82,702; total whites 158,695; colored males, 25,247; colored females 32,510 total colored 57748; total males 100,945; total females 125,203; total males and females, 215,143.

5. The greater number of deaths from small-pox among the males must be referred to several causes as:

(a) Greater exposure of the males to contagion.

(b) The large number of males conducting the commerce of the Mississippi river.

(c) The large number of males engaged in building the railroads leading to New Orleans.

6. Small-pox entered New Orleans and formed a lodgment, not from the ocean and Gulf of Mexico, by merchant vessels, but it was brought in from the surrounding States, by steamboat and by rail-road.

7. The colored race, in their present condition of ignorance, poverty and helplessness form the great hot-bed or breeding ground for the preservation and dissemination of small-pox. Before the recent civil war, and before the emancipation of the slaves, the planters employed competent physicians, enforced vaccination, and when small pox occurred, they isolated the cases in houses and hospitals built for the purpose of segregating contagious diseases.

8. New Orleans will be perpetually exposed to the introduction and ravages of small-pox, whenever the disease appears and prevails among the colored people of the Mississippi valley.

9. The subject of vaccination should engage the earnest consideration of the United States government and of each State government, and suitable laws regulating and perfecting and enforcing vaccination upon all citizens, irrespective of race, and condition should be devised and executed.

10. The question of the spread of small-pox amongst the colored race of the Southern States is one of paramount importance, and should engage the earnest consideration of wise and humane legislators.

GENERAL RESULTS OF THE QUARANTINE OPERATIONS OF THE BOARD OF HEALTH OF THE STATE OF LOUISIANA, FOR THE EXCLUSION OF FOREIGN, PESTILENCE AND MORE ESPECIALLY YELLOW FEVER, FROM THE MISSISSIPPI VALLEY DURING THE YEARS 1880, 1881, 1882 AND 1883.

MISSISSIPPI QUARANTINE STATION.

CONDITION OF MISSISSIPPI QUARANTINE IN 1880; REPAIRS, ADVOCATED BY THE PRESIDENT OF THE BOARD OF HEALTH, 1880; RIGOLETS AND ATCHAFALAYA QUARANTINE STATIONS, 1880.

The Mississippi Quarantine Station is located upon the eastern bank of the Mississippi river, about seventy-five miles below New Orleans, and thirty-five miles from the Gulf of Mexico. The grounds immediately on the Mississippi river are enclosed by a levee of moderate height and strength. The levee, running parallel with the Mississippi river, is about 1700 feet in length, and the opposite or back levee, about 1600 feet; the upper and lower levees running perpendicularly to the Mississippi river measure each about 730 feet in length. The entire area enclosed by this levee within the lines of which are situated the Quarantine hospitals, physician's residence, and the United States warehouse, is about 1,113,750 square feet. The grounds slope back gently to Quarantine Bay, an arm of the Gulf of Mexico, about one mile distant.

By reference to the map of Louisiana, it will be seen that from a point about midway between New Orleans and the Gulf of Mexico, the eastern portion of the alluvial delta, through which the Mississippi River flows, is narrowed to a mere strip of land, ranging from one to two miles in width. This entire strip of land is subjected to peculiar climatic conditions. On the one side flows the Mississippi River, bearing its cool waters from the

Alleghanies in the east and the Rocky Mountains in the west; on the other open the waters of the grand Gulf of Mexico. Located thus between the Mississippi River and an estuary of the Gulf of Mexico, the atmosphere is agitated by sea breezes, and the climate is purer and more stimulating than that of New Orleans.

Careful inquiry revealed the facts that whilst this narrow strip of land is elevated only a few feet above the level of the Gulf of Mexico, at the same time, from the close proximity of the atmosphere of the salt water of the Gulf, the type of malarial fever in these localities, where rice is not cultivated, is mild, and many diseases of more elevated regions, as typhoid fever, inflammatory rheumatism, pneumonia, pleuritis, and phthisis are almost unknown. Under moderate circumstances, and when removed from the vicinity of rice fields, the inhabitants of this portion of Louisiana enjoy as long lives as in the most famed regions of the tropical and semi-tropical and temperate regions of the earth; whilst at the same time the soil is of unexampled fertility, and the earth rewards the labors of the husbandman with abundant fruits and harvests. The orange attains perfection, and the sugar-cane has been known to tassel in this portion of the delta, whilst the surrounding waters abound with fish, shell fish, crabs and shrimp, and in the winter season teem with ducks and geese.

The Mississippi River at the Quarantine Station, as well as in the harbor of New Orleans (which in depth and safety is unsurpassed by any other on this globe), affords an anchorage for ships of all sizes.

It is evident, therefore, from the preceding facts, that the location of the Mississippi Quarantine Station was well chosen, both for the protection of the Mississippi Valley from foreign pestilence and for the welfare and protection of shipping during the performance of quarantine.

This Quarantine Station commands the mouths of the Mississippi River, and can be superseded by no other quarantine removed from the banks of this river.

Quarantine establishments may be located either at the mouths of the Mississippi River or at the head of the Passes, or further up beyond the present location, nearer the city, as was the case in former times at the English Turn. But the protection of the Mississippi Valley from the introduction of foreign pestilence demands the existence of a thoroughly equipped and efficiently officered quarantine establishment on the banks of the Mississippi River, between New Orleans and the Gulf of Mexico.

No one at all conversant with the topography of the coast of Louisiana, Texas, Mississippi and Alabama would for a moment conceive that the commerce of this great valley could be forced by the way of Ship Island or any other point beyond the borders of the Mississippi River.

However and whenever detained and quarantined on the coast of the Gulf of Mexico, ships must again undergo thorough inspection, and be subjected to rigid quarantine regulations, when they enter the gateway of the Valley of the Mississippi.

Drainage canals are located on the water side of the upper and lower levee, and communicate with Quarantine Bay, and the grounds are intersected with ditches at regular intervals. The levees are covered with grass, and at the upper bank and lower lines are in better condition than on the river front.

Upon the area surrounded by the levee the following buildings are located, and in this examination we will proceed from the upper portion of the quarantine grounds downwards.

1st. *Fever Hospital.* The Hospital devoted to the treatment of fever, and more especially yellow fever, is a two-story frame building, situated about 230 feet from the line of the upper levee, and 150 feet back of the levee fronting the river: 125 feet long, 33 feet wide and 35 feet high; upper and lower galleries, 9 feet wide and 125 feet long, run along the front of the Hospital. This building contains nine rooms on the lower floor and four rooms on the upper; in all thirteen rooms. Halls divide the lower floor at right angles.

The upper floor is divided into four capacious, well-ventilated wards. The rooms and halls are plastered, and the ventilation is excellent. The entire building is well adapted to the treatment of fever patients.

The wards are supplied with windows, at regular intervals in front and rear, and thorough ventilation can at all times be secured.

The cubic capacity of the wards and rooms of the fever hospital is 55,030 cubic feet; of the halls and corridors 8788 cubic feet, giving a total cubic capacity, exclusive of the galleries, of 63,818 cubic feet.

If 1100 cubic feet of air be allowed to each patient, this hospital is capable of accommodating about sixty patients.

In the rear of this hospital, or connected with it by a platform 20 by 4 feet, is a kitchen with two rooms 14 by 14 feet and 10 feet in height, with gallery 28 by 8 by 14 feet.

The graveyard of the Quarantine Station is located about 200 feet to the rear of the fever hospital, and is surrounded by a rude fence and covers about three-fourths of an acre. Marks of about one hundred graves can be discerned in the enclosure, which are thickly covered with tall grass, brambles and shrubs.

There is only a solitary marble monument, which bears the following inscription:

"A la m moire de Trente Marins, faisant partie de l'équipage de l'avito a vaisseau de la Marine Imperiale le Tonnerre, décédés a la Quarantine de la Nouvelle Orleans en Août, 1857. Erigé par l'odre de S. E. l'Admiral Hamelin, Ministre de la Marine de l'Empereur Napoleon III."

BOATMEN'S QUARTERS AND QUARANTINE LIGHT.

This wooden structure is situated 320 feet from the centre of the Fever Hospital, immediately in front of the levee; 31 by 21 feet, divided into six rooms. The quarantine light is connected with the boatmen's quarters by a gangway 126 feet long and 5 feet wide, projecting into the Mississippi river. The lower portion of the quarantine light has been used as a boat-house until the formation of a sand-bar rendered it useless for this purpose. The quarantine light is a wooden structure, 33 by 21 feet. A large bell, which is tolled in foggy weather, is attached to the quarantine light. Immediately in the rear of the boatmen's quarters (40 feet within the line of the levee) stands a small frame house, 30 feet square, which is used as a storehouse for disinfectants.

RESIDENCE OF QUARANTINE PHYSICIAN.

The residence of the quarantine physician and his assistant occupies very nearly the centre of the front of the quarantine grounds, about 314 feet from the boatmen's house and 100 feet back of the levee. This small wooden building contains four rooms, a hall, gallery and kitchen. A small house, 12 by 16 feet, occupies the upper angle of the small enclosure, surrounding the resident physician's quarters.

SMALL-POX HOSPITAL.

The small-pox hospital, situated 500 feet from the physician's residence and 106 feet from the front levee, has two stories, each of which has four rooms or wards, 18 feet wide, 20 feet long and 11 feet high, giving a cubic capacity of each ward of 3960 feet, and for the entire hospital, eight wards, 31,860 cubic feet. There is on each floor a cross-hall, 20 feet long by 7 feet wide and 11 feet high; cubic capacity of each hall, 1590 cubic feet, and of both halls, 3080 cubic feet,

Total capacity of small-pox hospital (80 feet in length, 20 feet wide, 11 feet high), 34,760 cubic feet.

If 1100 cubic feet of air be allowed to each patient this hospital would accommodate about thirty patients. Galleries run the length of the front of the hospital, above and below, and are each 80 feet in length, 9 feet in width and 11 feet in height. There is a small building in the rear designed as a kitchen, 14 by 14 by 10 feet.

UNITED STATES WAREHOUSE.

The government grounds commence about 70 feet from the small-pox hospital, and extend to the lower levee. The government warehouse is a substantial fireproof brick building, situated about 125 feet from the centre of the small-pox hospital, and consists of a main hall and two wings, and is two stories in height. The upper story is supported by brick and iron arches. No wood is used in the construction of the building.

The two main halls, in the first and second floors, are each 140 feet in length by 23 feet in width, and 12 feet in height, giving a cubic capacity of 28,640 cubic feet; total 77,289 cubic feet. The two wings are each 54 feet in length and 25 feet in width and 12 feet in height, each floor giving a capacity of 16,200 cubic feet for each wing; total capacity of wings 64,800 feet; total capacity of government warehouse 142,080 cubic feet.

The United States wharf is substantially built, with boat-house attached. The main wharf is 100 feet long by 30 feet, and the depth of water immediately at the river front is 22 feet. The gangway leading from the wharf to the warehouse is substantially built, and is 239 feet long by 20 feet wide, with wooden railway extending from the wharf to the warehouse.

HISTORY OF THE ERECTION, AND AMOUNTS EXPENDED UPON THE MISSISSIPPI QUARANTINE STATION.

On the fifteen of March, 1855, the Legislature of Louisiana, appropriated the sum of $50,000 for the erection at the Quarantine Station, on the Mississippi River, of two separate buildings, as hospitals for the sick-of a small house as residence for the officers appointed under this act, and of a well ventilated store for the reception of the freights of such infected vessels as the Resident Physician may deem necessary to cause to be unloaded.

By the first section of act of Congress entitled "An Act making appropriation for certain civil expenses of the government for the year ending the thirtieth of June, 1858," approved third of March, 1857, the sum of $50,000 was appropriated for the construction of warehouses at Quarantine Station, on the Mississippi River below New Orleans.

On the eighth of February, 1858, it was enacted by the Senate and House of Representatives of the State of Louisiana, in General Assembly convened, "that the State of Louisiana does cede to the United States jurisdiction over the site of such warehouses as shall be constructed under the act of Congress, approved the third of March, 1857, aforesaid, at Quarantine Station on the Mississippi River, below New Orleans, and does hereby further grant to the United States the use of so much land as may be necessary for the construction of such warehouses, with water front, and privilege of the wharf now built or hereafter to be built on said Station,"

It was furher enacted "that the Board of Health of the State of Louisiana be and they are hereby authorized and required to designate so much land to said Quarantine Station as may be necessary for the construction of the warehouses aforesaid,"

On the eighteenth of March, 1858, it was enacted by the Senate and House of Representatives of the State of Louisiana in General Assembly convened, "That the property at the Quarantine Station, on the Mississippi River, located in this State, the use and jurisdiction over which has been granted by the State of Louisiana to the United States for the purpose of constructing government warehouses, together with the improvements and buildings which the Government of the United States may erect thereupon, shall be and is hereby exonerated from all taxation and assessments by the State, or by any authorities acting under the State, so long as said property is in possession of the United States."

CONDITION OF THE MISSISSIPPI QUARANTINE STATION AT THE TIME OF THE INAGURATION OF THE PRESENT QUARANTINE PHYSICIAN, APPOINTED BY GOV. WILTZ.

The hospitals were almost absolutely bare of furniture, beds, bedding and utensils, and without the necessary facilities for the treatment of even a limited number of sick; the grounds were open and roamed over by cattle, the drainage ditches were in many places choked up, and the building needed cleansing, painting and thorough repair.

GENERAL CONCLUSIONS AND RECOMMENDATIONS SUBMITTED TO THE BOARD OF HEALTH, WITH REGARD TO THE MISSISSIPPI QUARANTINE STATION, BY THE PRESIDENT, ON THE TWELFTH OF JUNE, 1880.

1. (*a*). The location of the quarantine grounds and buildings is excellent, and the service is energetic.

(*b*). The Mississippi quarantine contains a considerable amount of valuable property. The United States warehouse alone cost $58,000, and is well adapted to the reception of the cargoes of ships. The entire value of the buildings cannot be less than $75,000.

(*c*). The immediate wants of this Quarantine Station are: 1, Medical stores for hospitals. 2. Bedding, linen, and utensils for hospitals. 3. Fumigating apparatus. 4. One launch boat. 5. A competent man, who shall be placed in charge of the hospital stores and furniture. 6. One or more laborers, whose duty it shall be to open the drains, repair and build the fences, whitewash the houses and wards and keep the buildings and grounds in good sanitary condition.

(*d*). The position of the Quarantine Station, at the mouth of this great river, which has over 20,000 miles of navigable streams, tributary to the great valley with its 20,000,000 of inhabitants, is of vast importance.

(*e*). It is the solemn duty of the Board of Health of the State of Louisiana to place the Mississippi Quarantine Station in the best and most effective condition, to fulfill its important mission of protecting this great valley from the importation of foreign pestilence, and at the same time affording a safe retreat, where sick seamen may receive kind and humane nursing and skillful medical treatment.

2. (*f*). While protecting this valley rigidly from the introduction of foreign pestilence, at the same time the commerce and prosperity of the valley should be promoted by the perfection and enlarged application of all reliable means for disinfection, fumigation and sanitation.

3. (*g*). The Mississippi Quarantine Station, notwithstanding the absence of certain hospital furniture and supplies, is administered by the quarantine physician and his assistant with intelligence and energy.

4. (*h*). The laws of the State of Louisiana, and the rules and regulations of the Board of Health, are rigidly executed.

(*i*). All vessels arriving from infected ports, or from ports in which yellow fever usually prevails at certain seasons of the year, are detained and thoroughly cleansed and fumigated.

(*j*). All vessels arriving at Quarantine Station are carefully inspected.

(*k*). All vessels from infected ports, even though they may bring clean bills of health, are detained not less than seventy-two hours for inspection, observation, purification, disinfection and fumigation.

(*l*). The length of the detention depends upon the nature of the bill of health, the condition of the port from whence the vessel sails, the history of the vessel while in port and during the voyage, and the actual condition of the crew, cargo and vessel at the time of arrival at the Quarantine Station.

This is the case with the ships from Rio de Janerio, a badly infected port. Every effort is made for their thorough purification. The cargo is removed from the hold and thoroughly ventilated; the hold fumigated at intervals with sulphurous acid gas; the sides and floors of the ship and decks are scraped and washed with antiseptic disinfectants; the bilge water is removed and replaced by a solution of copperas and carbolic acid. In such cases the detention is not less than ten days, and often varies from fifteen to twenty days.

4. (*m*). In order to secure thorough inspection and observation, the shipping is again inspected in the harbor of New Orleans; and the cargo of ships from badly infected ports again subjected to fumigation and disinfection.

(*n*). The vigilance exercised over our shipping is also extended to the city of New Orleans, and the members and officers of the Board of Health stand ready to investigate all cases which may arise in the future, and will use all known useful means for the abatement, circumvention and eradication of infectious diseases.

5. (*o*). In conclusion the President of the Board of Health respectfully urges that the Board of Health confer upon him the power to make, at the earliest practicable moment, the following appointments and the following appropriations for the Mississippi Quarantine Station:

One hospital steward and druggist.
One laborer.
One hospital nurse.

Amount for disinfecting apparatus	$250
Hospital furniture, beds and bedding	250
Hospital utensils	150
Drugs, medicines and medical apparatus	100
Hospital and quarantine tools, spades, axes, hatchets, saws, planes, hoes, nails, whitewash brushes, etc	95
Repairs of boats	59
Removal and repair of boat-house	150
Disinfectants	100
Total	$1,125

In the above estimate I have included only those expenditures which are immediately demanded to give efficiency to the Mississippi Quarantine Station, and to provide for the actual wants and treatment of the sick.

The thorough repair of the buildings and the thorough ditching and fencing of the grounds, together with the erection of a suitable frame building for the well passengers, will require further consideration and liberal appropriations.

At this moment the Board of Health of the State of Louisiana is not in a position to advance the necessary amounts.

But with economy, energy and perseverance, it is the hope of the board that the Mississippi Quarantine Station may be placed in the most effective condition for the protection of the State from the importation of foreign pestilence and for the protection of commerce and the relief of sick and suffering humanity.

The relations of the actual resources and the necessary expenses of the Mississippi Quarantine Station, are shown by the following tables:

RECEIPTS OF THE BOARD OF HEALTH FROM QUARANTINE STATION.

1869	$23,960 00
1870	20,995 00
1871	23,624 00
1872	18,803 50
1873	18,336 69
1874	19,280 60
1875	13,801 59
1877	15,121 60
1878	19,931 00
1879	18,114 75

ANNUAL EXPENSES FOR SALARIES.

Resident Physician	$5,000
Assistant	2,000
One Watchman	540
One coxswain	540
Four boatmen	1,920
Total annual expenses for salaries of officers and boatmen	10,000

NECCESSARY EXPENSES FOR THE EFFICIENT CONDUCT OF THE MISSISSIPPI QUARANTINE STATION.

One Druggist and hospital steward, at $75 per month—12 months	$900
Two Hospital nurses, at $50 per month—12 months	1,200
One Hospital cook, at $30 per month—12 months	360
Two Laborers and keepers of hospital grounds, at $30 per month each	720
Medicines and hospital supplies, furniture, bedding, etc	1,000
Repair of boats	300
Disinfectants and disinfecting apparatus	1,500
Repair of buildings, painting, whitewashing, etc., per annum	5,000
Food and stimulants for the sick	1,000
Ship chandler supplies	500
	$12,380

According to the organic law of the State the salaries of the President, and of the Secretary and Treasurer should be included in the above estimate; which at the present rates per annum would bring the total amount necessary for the proper conduct of the Mississippi Quarantine Station during the year 1880, up to at least $26,780, a sum considerably in excess of the receipts of any one year, since the recent civil war."

The report was received and adopted, and $2200 appropriated by the Board of Health, to be applied by the President and finance committee for the necessary suplies of medicines, disinfectants, and disinfecting apparatus for the Quarantine Station.

Hospital furniture, beds, bedding, mosquito bars, blankets, pillows and pillow-cases, and medicines sufficient for the efficient treatment of about twenty patients, together with cooking stove and kitchen furniture, and disinfecting apparatus, paints, tools, etc., were purchased at the earliest practical moment and shipped to the Quarantine Station.

At the meeting of the Board of Health on the nineteenth of November, an additional sum of five thousand dollars ($5000) was appropriated to the repair of the Mississippi Quarantine Station.

In order to supplement the operations of the Mississippi Quarantine and of the Rigolets, and in order to secure the highest attainable sanitary condition in the shipping in the harbor along the river front and within the basins lying within the heart of this great city, the President drew up a code of sanitary rules and regulations, which were unanimously adopted and promulgated by the Board of Health on the 22d of April.

In accordance with section 3 of the Sanitary Rules of the Board of Health of the State of Louisiana, regulating shipping in the port of New Orleans, the President commissioned the Sanitary Inspectors of the several districts and appointed an Assistant Deputy Inspector, and empowered them, in accordance with the acts of the Board of Health, to carefully inspect the shipping, and to use such measures as were in accordance with the regulations.

From the following table it will be seen that during the months of May, June, July, August, September and October 462 vessels were inspected in the harbor of New Orleans, exclusive of the vessels inspected in the old and new basins.

TABLES SHOWING THE NUMBER, CLASS, AND NATIONALITY OF VESSELS ARRIVED IN THE PORT OF NEW ORLEANS DURING THE SIX MONTHS ENDING OCTOBER 31, 1880, WHICH WERE INSPECTED BY THE SANITARY INSPECTORS OF THE BOARD OF HEALTH, STATE OF LOUISIANA.

Months.	Steamships	Ships.	Barks.	Brigs.	Schooners.	Total.
May	33	15	25	5	18	96
June	35	2	17	1	11	66
July	40	2	18	1	6	67
August	38	3	11	.....	4	56
September	53	13	3	.....	4	73
October	77	7	25	.....	5	104
Total	266	42	99	7	48	462

Nationality.	Steamships	Ships.	Barks.	Brigs.	Schooners.	Total.
American	103	27	21	2	42	195
British	134	9	26	1	.....	170
Spanish	26	.....	14	1	.....	41
Norwegian	.....	.....	10	1	.....	11
Swedish	.....	.....	3	1	.....	4
German	3	3	3	.....	.....	9
Italian	.....	.....	7	1	.....	8
French	.....	3	8	.....	1	12
Austrian	.....	.....	6	.....	.....	6
Mexican	.....	.....	.....	.....	5	5
Danish	.....	.....	1	.....	.....	1
Total	266	42	99	7	48	462

Sanitary rules were also recommended by the President of the Board of Health of the State of Louisiana, to be observed by vessels during their stay in the port of New Orleans, and in other ports and on their passage to and from New Orleans. The co-operation of the State and Federal authorities and of the various Foreign Consuls was urged. Four thousand copies of these sanitary rules were printed, and they have been systematically and continuously distributed by the Sanitary Inspectors of the Board of Health and by the various quarantine officers at the Mississippi, Atchafalaya and Rigolets Quarantine Stations to the captains, masters and agents of all vessels entering the waters of Louisiana.

On May 24, 1880, the rules and regulations for the government of quarantine officers and stations, and for the enforcement of the acts of the Legislature of Louisiana, "establishing and regulating quarantine for the protection of the State,"* were submitted by the President and unanimously adopted by the Board of Health, and four thousand copies have been printed and distributed by the Board of Health to the local boards in the United States, to foreign consuls, captains, masters and agents of vessels.

QUARANTINE OF VESSELS FROM THE INFECTED PORT OF RIO DE JANERIO, DISCHARGE OF CARGOES AT THE MISSISSIPPI QUARANTINE STATION, DISINFECTION OF COFFEE IN THE WAREHOUSES IN NEW ORLEANS.

The prevalence of yellow fever in the city of Rio de Janerio, received the prompt and earnest attention of the Board of Health immediately after its reorganization in April, 1880. The various vessels arriving with coffee, from this port were detained at the Quarantine Station for periods ranging from twelve to twenty days, the resident Quarantine physician was ordered to shift the cargoes by acclimated laborers, (that is by men who had suffered with yellow fever).

Whenever it became necessary to send down men to discharge cargo, each man was examined by the President of the Board of Health, and his statement taken under oath and a careful record was preserved, as to the age, nativity, previous attack of yellow fever, attending physician, residence, etc.

As a general rule the coffee ships from Rio discharge their cargoes in the First iDstrict of New Orleans, in which are located the large coffee warehouses. Each cargo of coffee was fumigated by the Sanitary Officer.

*Acts of the Legislature of Louisiana establishing and regulating quarantine for the protection of the State; organizing and defining the powers of the Board of Health, and regulating the practice of medicine, midwifery, dentistry and pharmacy; also, rules and regulations of the Board of Health of the State of Louisiana and health ordinances of the city of New Orleans, by Joseph Jones, M. D., New Orleans, 1880 pp. 36-51.

The following facts with reference to the prevalence of yellow fever, and other diseases in Rio de Janerio, were communicated monthly to the Board of Health by the Consul, General Thomas Adamson.

In Rio de Janeiro there occurred in the month of November, 1879, total deaths from all causes 850, yellow fever 9, small-pox 11, enteric or typhoid fever 20, pernicious fever 22; month of December, 1879, total deaths 915; yellow fever 18? small-pox 9, enteric or typhoid fever 13, pernicious fever 43, consumption 153, month of January, 1880, total deaths 1062, yellow fever 133, small-pox 2, enteric or typhoid fever 14, scarlet fever 5, pernicious fever 54, consumption 166, month of February, 1880, total deaths 1352; yellow fever 484, small-pox 1, typhus fever 1. typhoid or enteric fever 19, scarlet fever 1, pernicious fever 76. consumption 140. Present estimated population of Rio de Janeiro 330,000. March total deaths 1389; yellow fever 468, typhus fever 3, enteric or typhoid fever 17, pernicious fever 60, consumption 153, month of April, 1880, total deaths 1008, yellow fever 274, typhus fever 2, enteric or typhoid fever 15, pernicious fever 40, consumption 150. month of May, 1880, total deaths 914, yellow fever 105, typhoid fever 14, pernicious fever 28, consumption 148, month of June, 1880, total deaths 812, yellow fever 55, typhus fever, typhoid fever 8, pernicious fever 24, consumption 143.

INSPECTION STATION ESTABLISHED AT MOUTH OF MISSISSIPPI RIVER.

In accordance with the resolution of the Board of Health empowering the President to appoint a Quarantine and Sanitary Inspector for the Mouths and Passes of the Mississippi River, with headquarters at Port Eads, the following circular letter embraces the more essential instructions issued annually to the medical officers who have occupied this responsible and important post during the past four years, 1880, 1881, 1882 and 1883;

OFFICE BOARD OF HEALTH, STATE OF LOUISIANA,
NEW ORLEANS, ———, 1880.

Dr. ———, of New Orleans, is hereby appointed Quarantine and Sanitary Inspector for the mouth of the Mississippi River, with ample power of supervision over the shipping entering the mouth of the Mississippi River, and over the inhabitants, shipping and visitors and employés at the Jetties, Port Eads, Pilot Town and Southwest Pass.

Dr. ———, Quarantine and Sanitary Inspector of the Board of Health of the State of Louisiana, will allow no communication between the shore, by unauthorized persons, with vessels subject to the quarantine regulations and laws of the State of Louisiana and the rules and regulations of the Board of Health. He will regulate the mode of towing infected vessels, and he will report promptly to the Board of Health, through its executive officers, all infractions of the quarantine laws and of the rules and regulations of the Board of Health of the State of Louisiana.

The Quarantine Inspector will also direct the sanitary affairs of the Jetties, Port Eads and Pilot Town, and report promptly the occurrence of contagious or infectious diseases to the President of the Board of Health.

The Quarantine Inspector is also empowered to investigate all cases of disease, and especially all varieties of fever of a serious character, which may prevail along the banks of the Mississippi River, between the mouths and the city of New Orleans.

In the discharge of the above important duties, the Quarantine Inspector of the Board of Health of the State of Louisiana will be obeyed and respected accordingly.

JOSEPH JONES, M. D.,
President of the Board of Health State of Louisiana.

This inspection service was maintained, during the existence of the Quarantine proclamation of the Governor of the State of Louisiana, annually in 1880, 1881, 1882 and 1883.

The entire cost of this inspection, as maintained by the Board of Health, during this period of four years, was less than three thousand dollars; nevertheless, the results obtained were of the most important character, in furnishing prompt information to the President of the Board of Health, of the appearance of infected vessels at the mouth of the Mississippi river, and also in preventing improper and illegal intercourse between vessels from infected ports, with steamers, tug-boats, and with the inhabitants of the surrounding shores.

The stringent measures of 1883, which excluded all vessels from ports infected with yellow fever from the waters of Louisiana, could not have been properly executed by the President of the Board of Health, in accordance with the proclamation of the Governor of Louisiana, without an active and faithful officer at the mouth of the Mississippi river.

The resistance of the Quarantine authorities, by the British Steamship Vanguard, on the twenty-third of May, 1880, was promptly met; the Civil Sheriff, of the parish of Orleans, in accordance with the order of the President of the Board of Health, forcibly seized the Steamship Vanguard, and returned her to the Quarantine Station*.

*For details of the case of the British Steamship Vanguard, see Annual Report of the Board of Health of the State of Louisiana, for 1880, pp. 25-28.

The Swedish bark Excelsior, Captain J. T. Bjorkgren, left Rio Janeiro on the tenth of May, 1880, and arrived at the Mississippi Quarantine Station June 24, having been on the voyage about fifty-six days. Her crew consisted of three officers and nine seamen. No case of sickness occurred either at Rio or on the voyage to the Mississippi Quarantine Station. After detention at the Mississippi Quarantine Station for twelve days, during which period no sickness occurred, the bark was released, and reached New Orleans on the fifth of July. One of the crew was seized with fever on the seventh, and on the tenth of July was transferred from the vessel to the Touro Infirmary, and the case reported to the President of the Board of Health. Upon examination I found the man suffering with yellow-fever. The vessel was boarded, the crew mustered upon deck and carefully examined. I was convinced that at least two of the seamen presented febrile symptoms, and concluded that they would develop into yellow-fever.

The officer in charge was ordered to keep his men on board, and to proceed with all possible dispatch to the Mississippi Quarantine Station. Captain Thomas McLellan, of the New Orleans Towboat Line, was ordered to return the bark to the Mississippi Quarantine Station.

The officer in command of the Excelsior refused to leave the wharf, on the ground that the vessel was not properly ballasted, and would capsize if towed into the stream. I then issued an order to the Civil Sheriff of the Parish of Orleans, commanding him, in the name of the State of Louisiana, and the Board of Health, to remove the bark Excelsior forthwith to the Mississippi Quarantine Station.

From the following extracts from the financial report of the Secretary and Treasurer of the Board of Health, you will observe that the execution of this order was attended with a considerable expense to the Board of Health.

Paid expenses attending removal of infected bark Excelsior from city to Quarantine Station:

Civil Sheriff's fees	$ 63 50
Tug Wilmot, towage bill	150 00
Eager, Ellerman & Co., for ballast	15 00
Dr. Mioton, special services	25 00
Total expenses attending removing of bark Excelsior paid by Board of Health	$253 50

If to this be added the expenses of the Texas Health Officer and of the Texas Committee and Members of the Board of Health, who visited the Mississippi Quarantine Station for the purpose of investigation, $139, we have a total expense of $392 50.

Telegrams and also written instructions were dispatched by the President, to the resident and assist resident physicians at the Mississippi Quarantine Station, giving the facts relating to a case of fever and the return of the vessel to quarantine; and stringent orders were issued to keep the vessel and crew in close quarantine, separated from all other vessels, allowing no communication with the shore on either side, or with the city of New Orleans, or with the settlements at the jetties and Pilot Town.

The Board of Health retained the Excelsior at the Quarantine Station for over one month after the removal of the last case from the vessel on the fourteenth day of July.

The man removed on the twelfth to Quarantine Hospital, and who recovered, was released on the twenty-fifth from the hospital as entirely convalescent.

The President of the Board of Helth advocated the release of the vessel one month after the removal of the last case to the hospital, on condition that she be retained at some point below the city, on the opposite side of the river, there receiving her cargo. It was held that it was not advisable for the vessel to come into the harbor among the shipping.

The opinion of the resident quarantine physician was also to the same effect, as will be seen from the following letter:

MISSISSIPPI QUARANTINE, AUGUST 4, 1880.

Dr. Joseph Jones, President of Board of Health, New Orleans, La.:

Sir—Knowing of considerable discussion arising as to the detention of the Swedish bark Excelsior at this station, I beg leave to state:

That it having been abundantly proved that the vessel and cargo were thoroughly fumigated at this station, and the yellow fever contracted by members of the crew was contracted while the crew were engaged in the then unfumigated portion of the cargo, which they were shifting preparatory to fumigation; and, that the first case of yellow fever occurring on said bark in New Orleans, appeared on the eighth day of July, without further spread of the disease.

That the second, third and fourth cases appeared at this station respectively, the eleventh, thirteenth and fourteenth of the same month. That the two last died respectively on the seventeenth and eighteenth of same month; all their effects brought on shore, consisting of a shirt, pair of pants, shoes, socks and a quilt, were buried with them. That the first case occurring here has recovered and is now on board the bark, being returned there thirty-first of July, having first thoroughly washed himself, a clean suit of clothes given him, and those with which he came on shore having been thoroughly boiled and washed. That the vessel has again been subjected to a thorough disinfection with sulphurous acid gas, copperas and carbolic acid. That no further cases of illness or disease at any time having occurred on board since the vessel has been at this station, I suggest that after another fumigation, and should no further cases of illness occur on

board within thirty days after the last, that the vessel be allowed to proceed to New Orleans, and, to satisfy public uneasiness, be made to anchor in mid stream; receive her supplies and cargo there, and be allowed to proceed to sea.

In my opinion, the best manner of proceeding in reference to the repairs necessary at this station, would be to request one of the State Board of Engineers to proceed to this station, make a thorough examination and report plans and specifications upon the same; upon which report the Board of Health could advertise for sealed proposals for the work.

Respectfully, your obedient servant,

JAS. F. FINNEY, Resident Physician.

[Telegram.]

NEW ORLEANS, August 16, 1880.—Dr. Finney, Mississippi Quarantine: Board directs release of Excelsior thirty days from transferring last case of fever to hospital, July 14.

Fumigate ship, clothing, etc. Sprinkle ballast with fifty gallons copperas and carbolic acid solution.

JOSEPH JONES, M. D.
President Board of Health, State of Louisiana.

The Bark Excelsior was released from quarantine on the eighteenth of August, and was allowed to come up to Wood's Powder Wharf, on the opposite side of the Mississippi River, below Algiers, across from the United States Barracks.

The President of the Board of Health placed the vessel in the charge of Dr. Mioton, Sanitary Inspectar of Fifth District. A policeman was detailed to remain on board to prevent communication with shore or city. The vessel was sealed by acclimated carpenters, and loaded with grain, the floating grain elevator being towed down.

Every effort was made to protect the State of Louisiana and Valley of Mississippi from the introduction of yellow fever from this vessel; and the effort of the Board of Health was crowned with success, as no case of yellow fever was propagated from the bark Excelsior.

The malarious nature and non-contagious character of the cases of paroxysmal fever which occurred in and around, above and below Point Michel, in the Parish of Plaquemines, during the summer and autumn of 1880, was fully and unequivocally established by the investigations of the officers of the Board of Health, the local practitioners, and by the committee appointed by the National Board of Health. The results of these inquiries were published in the Annual Report of 1880.

The preceding official records illustrate the prompt action of the Board of Health of the State of Louisiana, in the cases of the Vanguard and Excelsior, and the efforts to cleanse and disinfect vessels from Rio de Janeiro, and other infected ports, regardless of the time necessary to accomplish these results.

The nature of the quarantine operations conducted by the Board of Health of the State of Louisiana during the year 1880, will be most fully shown, by the following extracts from the official reports of the quarantine officers:

REPORT OF J. F. FINNEY, M. D., RESIDENT PHYSICIAN MISSISSIPPI QUARANTINE STATION.

QUARANTINE STATION, MISSISSIPPI RIVER, LA.,
January 1, 1881.

Dr. Joseph Jones, President Louisiana State Board of Health:

Dear Sir—I have the honor to transmit to you this, the annual report of the affairs of this station for the year ending December 31, 1880, and it is with a feeling of no little pleasure; that I can say no vessels have been permitted to pass this station with sickness on board during the past seven months, notwithstanding the fact that there were 208 more vessels this year than last. It is true, sickness occurred on board the bark Excelsior after her arrival in the city, but, as you are well aware, that was due to no lack of vigilance on the part of myself or my assistant, as that vessel underwent a very rigid quarantine at this station for a period of twelve days, during which time no disease manifested itself.

I append to this report a classified list of vessels passing this station during the past year, the total number is 1271, and the aggregate tonnage of this fleet will reach nearly two millions, which is I believe the largest ever arrived at this port.

*Annual report of the Board of Health of the State of Louisiana to the General Assembly for the year 1880, p. 34–192. Bark Excelsior, p. 34–43, p. 65–85, p. 88–108, p. 109–126. Malarial Fever of Plaquemines Parish, Louisiana, during the months of August, September and October, 1880, p. 127–132. Report of Dr B. F. Taylor, p. 133. Report of Dr. George A. B. Hays, of Point Michel, Louisiana, p. 127–130. Testimony of Dr. A. C. Love, of Donaldsonville, Louisiana, p. 130. The Rice Fever. Reports of Drs. Brown and Davidson on the fever which prevailed in Plaquemines Parish, p. 135–140. The Fever on the Lower Mississippi, p. 144–190.

There were detained at this station during the past year, for purification, disinfection and fumigation 151 vessels, among which were but four having any sickness on board; the patients were all transferred to the hospital for treatment, with the following results:

First. The steamer Chilian, one case intermittent fever. Discharged.

Second. The bark Excelsior, after return from the city, three cases yellow fever. Two died, one recovered.

Third. The steamer Tantalon, one case bilious remittent. Discharged.

Fourth. The steamer Wanderer, one case rubeola. Dissharged.

Of the 151 vessels detained at quarantine, there were in January, 1; April, 2; May, 23; June, 21; July. 29; August, 17; September, 27; October, 29; November, 2.

NUMBER AND CLASS OF VESSELS PASSING THIS STTION DURING EACH MONTH OF 1880.

	Steamships	Ships.	Barks.	Brigs.	Schooners.	Total.
January	47	9	47	4	11	118
February	60	16	44	5	18	143
March	43	12	31	6	20	112
April	45	7	27	3	21	103
May	48	3	23	6	20	100
June	40	2	23	1	10	76
July	45	3	23	2	7	79
August	44	4	9	0	3	60
September	64	12	6	0	7	89
October	65	14	28	1	7	115
November	55	24	40	5	10	134
December	58	15	56	6	7	142
Total	614	121	356	39	141	1271

With the hope that we may have a healthy and prosperous year before us, I remain,

Very respectfully your obedient servant,

J. F. FINNEY, M. D., Resident Physician.

REPORT OF DANIEL W. ADAMS, M. D., QUARANTINE PHYSICAIN RIGOLETS STATION.

To the Honorable the President and Members of the Board of Heath, State of Louisiana:

Gentlemen—A year of good health, yet prodigal of incident, has intervened since I had the honor to present my annual official report to your honorable body. Its events have vindicated your policy and seem steadily pointing the way to the security which quarantine requires in order to make it acceptable to trade and commerce.

During the past season 1170 vessels in all have been inspected by me at the Rigolets Station. Of these 26 were steamers and 1144 were schooners. Of the 1144 thirty-six (36) had been acting as lighters to foreign vessels. Of the 26 steamerr two (2) had been acting as lighters to foreign vessels.

The Mexican steamer Victoria, from Frontera Tobasco, Mexico, arrived July 6, 1880. She had reported at the Jackson County, Quarantine Station, Pascagoula, and had remained there seven days, was there imperfectly disinfected. I found on removing the limber boards—which I learned had not been removed for years—the bilge water offensive, and much filth from decayed lumber. President Jones was present at the inspection.

DATES OF ARRIVALS FROM INFECTED PORTS.

American schooner Henriette Esch, arrived May 30, 1880 from Vera Cruz *via* Tuspan.

Mexican schooner Norma, arrived from Tobasco, June 9, 1880.

American schooner Mary A. Rushing, from Tuspan, July 31, 1880.

American schooner Henrietta Esch, from Tuspan, Mexico, August 4, 1880.

American schooner Annette, from Havana, Cuba, August 9, 1880.

These schooners were detained 72 hours, and thoroughly cleansed, On the latter of these trips of the Henrietta Esch, a sick person was landed and placed in the hospital—a case of intermittent fever yielding readily to treatment.

The employment of a watchman has had a beneficial effect on quarantine discipline and in some degree supplied the wants of a collector of permits at each one of the basins.

For the ensuing season a new Whitehall yawl, clincher built, will be required, 16 feet long, 5 feet beam, copper fastened and riveted.

The property on hand is carefully packed and left in charge of the ordinance sergeant at Fort Pike. I have the honor to be gentlemen. Very respectfully yours, etc.,

DANIEL W. ADAMS, M. D.,
Resident Physician, Rigolets Quarantine.

ATCHAFALAYA QUARANTINE STATION.

By the seventh section of the act of 1855, "To establish quarantine for the protection of the State," it is ordained that there shall be a quarantine "on the Atchafalaya River, two miles below Pilot's Station, at the mouth of Wax Bayou." It is also enacted that "There shall be no permanent building erected at Pilot's Station, on the Atchafalaya River, but the Board of Health shall use as an hospital for the reception of the sick, hulls and cabins of steamboats." In the twenty-fifth section of the same act it is further stated that "At the Atchafalaya Station, a good shed shall be provided for the freights of vessels to be unloaded. The Board of Health shall receive the transfer of such lands as may be necessary at the Atchafalaya River, in the same manner and under the same conditions as are required by section one, and all plans, specifications and contracts for the above buildings, shall be submitted to and approved by the Governor of the State; provided that the cost of said buildings shall in no case exceed the amount hereinafter appropriated."

In accordance with the acts of the General Assembly and the proclamation of the Governor of Louisiana, a quarantine strictly governed by the rules and regulations of the Board of Health, was maintained on the Atchafalaya River until the first of November. During the entire period of the maintenance of the quarantine no infected vessel arrived at the station, and Morgan City remained free of contagious and infectious diseases.

REPORT OF N. L. SIGUR, M. D.,

RESIDENT PHYSICIAN, ATCHAFALAYA QUARANTINE STATION.

MORGAN CITY, January 25, 1881.

Board of Health, State of Louisiana:

Gentlemen—I respectfully submit the following report of the quarantine operations at the Atchafalaya Station during the year 1880:

On May 29, 1880. I inspected the steamship Gussie, of the Morgan Line, Captain Richard Hill, 998 tons, which left Havana, Cuba, in ballast, on the twenty-sixth of the same month.

On August 8th, the steamship Wm. G. Hewes, also of the Morgan Line, Captain Richard Hill, 1117 tons, which left Havana, Cuba, in ballast, on the fourth of the same month.

On August 31st, the schooner Adolphe Flake, Captain Edwin L. Snow, 48 tons, which left Tampico, Mexico, with a cargo of honey and dye wood,

On October 6th, the steamship Gussie, above mentioned, which left Havana, Cuba, on the second of the same month.

All of which I have inspected, fumigated, disinfected and detained the time prescribed by the law. It affords me the greatest pleasure to state that I found them all in excellent sanitary condition and their crews in excellent health.

I am, very respectfully your obedient servant,

F. L. SIGUR, M. D.,
Quarantine Officer at the Atchafalaya Station for 1880.

QUARANTINE.

WORK ACCOMPLISHED DURING 1880 BY LOUISIANA BOARD OF HEALTH.

During the year 1880, 1271 vessels were inspected, detained, cleansed and fumigated, in all cases deemed necessary for the public welfare.

The aggregate tonnage of this fleet reached over 2,000,000 tons, and was believed to be the largest received through the Mississippi Quarantine Station since the American Civil War.

The activity of the commerce of New Orleans, during 1880, is also shown by the fact that 1,170 vessels were inspected at the Rigolets Quaratine Station.

The total exports and imports for the year 1880 amounted to $102,528,336, which is greater than any year during the past ten years, as will be shown by the following statistics of the United States Custom House.

Through the courtesy of the Collector of the Port of New Orleans, we have been permitted to extract the following general results from the records of the United States Custom House:

TOTAL VALUE OF COMMODITIES EXPORTED AND IMPORTED AT NEW ORLEANS FOR THE FOLLOWING PERIODS.

YEARS.	EXPORTS.	IMPORTS.	YEARS.	EXPORTS.	IMPORTS.
1870	$101,385,257	$17,705,655	1876	$ 81,387,836	$ 9,634,253
1871	93,532,797	18,333,530	1877	70,270,593	11,340,752
1872	95,950,942	30,000,377	1878	74,366,388	8,725,751
1873	100,930,307	18,825,527	1879	81,105,822	8,259,606
1874	87,974,797	13,472,483	1880	102,528,366	11,800,977
1875	76,695,700	11,637,168			

The year 1880 was distinguished by the absence of contagious and infectious diseases, and more especially of yellow-fever, not only in New Orleans and Louisiana, but throughout the Valley of the Mississippi.

The total deaths from all causes in the city of New Orleans during the year 1880 numbered 5,623, and the death rate per 1,000 inhabitants was 25.98. Death rate per 1,000 whites, 22,87; per 1,000 colored, 34.84.

The death rate of New Orleans during 1880 will compare favorably with that of any American or European city of similar population, and was much less than that of the city of Memphis.

The statistics recorded in the annual report of the Board of Health of the State of Louisiana for the year 1880, show that there has been an evident decline in the death rate of New Orleans during the past twenty years—1860–1880. These statistics also show that the establishment of quarantine at the mouth of the Mississippi River, and at the Rigolets and on the Atchafalaya, has tended to diminish the frequency of yellow-fever epidemics. Thus, from the establishment of the quarantine at the mouth of the Mississippi River in 1855 to the end of 1880 (twenty-five years), there have been but three epidemics of yellow-fever of any magnitude, namely: in 1858, 1867 and 1878; while in the preceding thirty-nine years (1817-1855) no less than nineteen severe visitations of yellow-fever have been recorded.

During the year 1880, the Board of Health of the State of Louisiana not only met all its liabilities from its legitimate revenues established by the acts of the Legislature, but expended several thousand dollars on the repair and equipment of the Mississippi Quarantine Station.

The Mississippi Quarantine Station, with its capacious government fire-proof warehouse, has justly been regarded as the equal, if not superior, of any similar establishment south of New York.

Notwithstanding the false alarms concerning yellow-fever; notwithstanding the prejudice of surrounding States against local Boards; notwithstanding the hostile forces arrayed against the Board of Health, within and without this city, it is an established fact, that with the exception of the years 1827 and 1879, the year 1880 was the healthiest in the past ninety-four years; and that the foreign commerce of New Orleans was larger in 1880 than in any previous year since the close of the civil war.

OUTLINE OF THE QUARANTINE OPERATIONS OF THE BOARD OF HEALTH OF THE STATE OF LOUISIANA FOR 1881.

MISSISSIPPI QUARANTINE STATION.

The dilapidated condition of the hospitals, wharf and boat house, and the neglected and undrained and unprotected condition of the grounds of the Mississippi Quarantine Station, were subjects of constant consideration and anxiety, and the earliest opportunity was embraced to urge this subject upon the attention of His Excellency, Governor Louis A. Wiltz, and of the Board of Health. The chief measures advocated are stated in the following correspondence:

NEW ORLEANS, October 23, 1880.

Hon. Louis A. Wiltz, Governor of the State of Louisiana:

Dear Sir—I have the honor to request your Excellency to examine the accompanying letter, embracing the request of the Board of Health of the State of Louisiana that the State Board of Engineers should examine the quarantine stations and the drainage canals of New Orleans, and report the necessary improvements and estimates of expenses.

Such information will prove of value to the Board of Health, and the indorsement of your Excellency is most respectfully requested by

Your obedient servant,

JOSEPH JONES,
President Board of Health, State of Louisiana.

OFFICE BOARD OF HEALTH, STATE OF LOUISIANA,
New Orleans, October 22, 1880.

Col. Henry B. Richardson, Chief Engineer, State of Louisiana:

Dear Sir—At the regular meeting of the Board of Health, on the twenty-first instant, the President directed the attention of the Board to two subjects which he regarded as of the utmost interest to the sanitary advancement and welfare of the State of Louisiana and the city of New Orleans.

1. The quarantine stations needed repair and improvements. The eyes of the people of the entire valley were upon the Board of Health of the State of Louisiana, and more especially upon the condition and conduct of the Mississippi Quarantine Station. Unless the Board of Health take immediate and decided action looking to the thorough equipment of the quarantine stations, the distrust and abuse on the part of the surrounding States may be even greater than during the present summer and autumn. The most compe-

tent authority to give advice to the State Board of Health on this subject is the State Board of Engineers, and the President urges immediate and decided action on the part of the Board of Health, requesting their aid and advice upon this important subject of the repairs and improvements of the quarantine stations.

2. The drainage canals of the city of New Orleans are choked up with filth, and need dredging and cleansing. This question is of paramount importance to the sanitary welfare of New Orleans, and, in the opinion of the President, the Board of Health should, at the earliest practicable moment, investigate the entire subject, and urge the City Council to immediate and energetic action.

In accordance with the suggestions of the President of the Board, the following resolutions were unanimously adopted:

"*Resolved*, That the State Board of Engineers be requested, at their earliest convenience, to examine and report upon the condition of the several quarantine stations, and especially upon the condition of the Mississippi Quarantine Station.

"*Resolved*, That the State Board of Engineers be also requested to report in detail the necessary repairs and improvements, with accurate estimates of the cost of the same.

"*Resolved*, That the President of the Board of Health be authorized to request the State Engineers and the City Surveyor to inspect the drainage canals of New Orleans, and to report on their condition and prepare estimates of the costs of dredging and cleaning canals."

As President of the Board of Health, I would most earnestly urge upon the State Board of Engineers the execution of this investigation, which will render material aid to the Board of Health in the perfection and execution of the quarantine and health ordinances of the State and city.

Respectfully, your obedient servant,

JOSEPH JONES, M. D.,
President Board of Health, State of Louisiana.

After a careful examination of the quarantine stations by the State Engineers and the President, and after advertising for sealed bids, the contract of repairing the hospitals and physicians' quarters and the building of a suitable boat-house and substantial wharf, was awarded to Messrs. Hanley, Kevlin & Garrett, of Algiers.

The following work was completed and accepted on or about the 1st of May, 1881:

A substantial wharf, 260 long by 10 feet wide, with pier-heads, 60 by 30 feet, with depth of water on river front of 25 feet, cost $1400. This wharf is one of the finest in the State, and is considered equal, if not superior to the wharf erected by the United States Government, two years before, at a cost of $5000.

Connected with the quarantine wharf a commodious boat-house has been erected 50 by 40 feet, elevated about 45 feet above the water, surmounted by an octagonal tower 14 feet in height, and ten feet in diameter. The sides of this tower are of plate-glass, and a beacon light is kept burning from sundown to sunrise, for the guidance of vessels, and can be seen far below Forts St. Philip and Jackson. A watchman is kept on duty all night, and in foggy and stormy weather the quarantine bell is tolled. The tower serves the purpose of a valuable light-house to all vessels coming up the Mississippi at night, and is believed to be the only light-house between the passes and New Orleans.

The President of the Board of Health also purchased for this station, a strong "first-class" boarding yawl, about 27 by 6 feet, made of white cedar, with black walnut seats and facings, all the fastenings and appointments being of brass and copper. A strong boarding boat of this nature, or better still, a steam launch, is considered as absolutely necessary to the efficiency of the Quarantine service, which in the Mississippi River, is of the most dangerous character, requiring active and experienced officers and boatmen.

The boarding of vessels in this turbid and rapidly rolling river, is especially dangerous in dark and stormy nights. The fever and small-pox hospitals have been thoroughly repaired, supplied with cisterns and painted within and without, and a barb-wire fence of substantial character, 3110 feet in length, has been erected on the side and back levees. The physician's residence has been thoroughly repaired and painted, and surrounded by a substantial fence, 350 feet square.

In accordance with the formal resolutions of the Board of Health, the President paid Messrs. Jerome Hanly, A. G. Garrett and H. Kevlin, the sum of $5695, immediately upon the completion and acceptance of the works and repairs as above described; and the entire amount of money paid (in hard cash), by the Board of Health for the repairs at the Mississippi Quarantine Station, and for supplies, disinfectants and salaries of officers, boatmen, watchman and hospital keeper, during 1881, was $18,104 08. The expenses of the Atchafalaya Quarantine Station were $690 and of the Rigolets Quarantine Station, $1536 93. On the other hand the total receipts from all the quarantine stations, by inspection and fumigation fees, was only $18,555.

INSPECTION OF INFECTED SHIPS—YELLOW FEVER IN RIO DE JANEIRO DURING 1880 AND 1881, AND THE MEASURES INSTITUTED FOR THE DISINFECTION OF THE VESSELS ARRIVING AT THE MISSISSIPPI QUARANTINE STATION FROM THIS PORT.

The extent and value of the coffee trade and the intimate relations of New Orleans with Rio de Janeiro, and the important fact that more than one destructive epidemic in past times had been referred to the coffee ships

of the latter port, necessitated the continuance of the system of inspection, disinfection and shifting of cargoes, instituted by the President, immediately after the re-orginization of the Board of Health, on the eighth of April, 1880.

The following facts with reference to the prevalence of yellow fever and other diseases in Rio de Janeiro were communicated monthly to the Board of Health by the Consul General, Thomas Adamson.

In Rio de Janeiro there occurred in the month of November, 1879, total deaths from all causes, 850—yellow fever 9, small-pox 11, enteric or typhoid fever 20, pernicious fever 22; month of December, 1879, total deaths, 915—yellow fever 18, small-pox 9, enteric or typhoid fever 13, pernicious fever 43, consumption 153; month of January, 1880, total deaths, 1062—yellow fever 133, small-pox 2, enteric or typhoid fever 14, scarlet fever 5, pernicious fever 54, consumption 166; month of February, 1880, total deaths, 1352—yellow fever 484, small-pox 1, typhus fever 1, typhoid or enteric fever 19, scarlet fever 1, pernicious fever 76, consumption 140. Present estimated population of Rio de Janeiro, 330,000. March, total deaths, 1389—yellow fever 468, typhus fever 3, enteric or typhoid fever 17, pernicious fever 70, consumption 153; month of April, 1880, total deaths, 1008—yellow fever 2, enteric or typhoid fever 12, pernicious fever 40, consumption 150; month of May, 1880, total deaths, 914—yellow fever 105, typhoid fever 14, pernicious fever 28, consumption 148; month of June, 1880, total deaths, 812—yellow fever 55, typhus fever 1, typhoid fever 8, pernicious fever 24, consumption 143; month of August, 1880, total deaths, 743—yellow fever 9, September, 1880, total deaths 758—yellow fever 4, small-pox 1, typhoid fever 3, pernicious fever 24, pulmonary consumption 168; month of December, 1880, total deaths, 812—yellow fever 14, small-pox 8, typhoid fever 14, small-pox 8, typhoid fever 12, scarlet fever 1, pernicious fever 26, consumption 141.

DEATHS OCCURRING IN RIO JANEIRO, DURING THE FIRST SIX MONTHS OF 1881, FROM ALL CAUSES, AND FROM THE DISEASES SPECIFIED, CONSOLIDATED FROM THE REPORTS OF THOMAS ADAMSON, CONSUL-GENERAL, UNITED STATES.

Diseases.	January.	February.	March.	April.	May.	June.
Yellow Fever	31	54	42	23	24	13
Consumption	153	131	125	137	140	137
Pernicious Fever	30	39	40	24	28	16
Small-pox	15	4	2	5	1	2
Typhoid Fever	11	13	20	14	8	8
Typhus Fever	....	1	....	1	3	....
Scarlet Fever	....	2	....	....	....	....
Diphtheria	....	....	....	....	....	....
Cholera	....	....	....	....	....	....
Other causes	629	672	739	613	653	620
Totals	869	916	968	817	857	796

July, 1881, total deaths, 773—yellow fever 9, small-pox 2, typhoid fever 4, pernicious fever 15, consumption 134; August, 1881, total deaths, 769—yellow fever 5, small-pox 5, enteric or typhoid fever 5, pernicious fever 20, consumption 126; September, 1881, total deaths, 669—yellow fever 1, small-pox 9, typhoid fever 8, pernicious fever 14, consumption 116; October, 1881, total deaths, 803—yellow fever 2, small-pox 18, typhoid fever 17, pernicious fever 17, consumption 146. Estimated population of Rio de Janeiro, 330,000.

The prevalence of yellow fever in Rio de Janeiro received prompt and earnest attention. The vessels arriving with coffee from this port were detained at the Quarantine Station for periods ranging from twelve to twenty days; the resident physician was ordered to shift the cargoes into the government warehouse by acclimated laborers (that is, by men who had suffered with yellow fever), natives of New Orleans.

The crews were not allowed to handle the cargo or to descend into the hold.

The men were carefully examined by the President of the Board of Health, an oath administered as to the date and nature of the preceding attack of yellow fever, and a record of the essential facts made before they were permitted to leave New Orleans for the Mississippi Quarantine Station.

The ships from Rio and other infected ports were thoroughly cleaned and fumigated, ventilated and disinfected; the coffee in the warehouse was also subjected to heavy fumigation with sulphurous acid gas.

When the coffee arrived in New Orleans it was again disinfected and fumigated in the warehouses where it was stored.

MISSISSIPPI QUARANTINE STATION.

QUARANTINE STATION, MISSISSIPPI RIVER, LA.,
December 1, 1881,

Dr. Joseph Jones, President of the Board of Health of the State of Louisiana:

Dear Sir—I would respectfully submit the following report of vessels arriving at and passing this station during the eleven months ending November 30, 1881; also, number of quarantined, number of sick admitted to hospital, and list of vessels required to discharge their cargoes for the purpose of thorough disinfection.

Your obedient servant,

J. F. FINNEY, M. D., Resident Physician.

VESSELS PASSING MISSISSIPPI QUARANTINE STATION FOR ELEVEN MONTHS ENDING NOVEMBER 30, 1881.

	Steamships.	Ships.	Barks.	Brigs.	Schooners.	Total.	
January	55	4	35	7	11	112	
February	36	15	20	7	14	92	
March	48	10	44	3	9	114	
April	53	12	35	3	16	119	
May	61	8	20	2	16	107	Quarantine of 72 hours.
June	36	4	14	1	10	68	
July	37	2	12	2	13	63	Quarantine of 240 hours.
August	29	5	7	.....	4	45	
September	36	5	7	3	9	60	
October	60	.....	7	1	11	87	Oct. 15th—Quarantine of 72 hours
November	47	14	18	2	9	90	Quarantine raised.
Total	498	87	219	31	122	957	

VESSELS QUARANTINED.

MONTHS.	Bremen	Rio.	Havana	Vera Cruz.	Colon.	Other Ports.	Total.	
January	1	....	....	....	....	....	1	Other ports include Laguayra, Progresso, Coatzacoalcos, Martinique, Pointe a Pitre, Sagua, la Grande, Matanzas, and Santiago de Cuba.
February	....	....	....	....	....	....	....	
March	....	2	....	....	....	....	2	
April	....	3	....	....	....	....	3	
May	....	3	14	6	1	1	25	
June	....	1	10	8	2	2	23	
July	....	2	2	6	....	2	12	
August	....	2	5	5	1	2	15	
September	....	2	3	3	....	4	12	
October	....	4	12	8	....	1	25	
November	....	....	....	....	....	....	....	
Total	1	19	46	36	4	12	117	

ADMITTED TO HOSPITAL.

Date.	Diseases.	No.	Vessel.	From.	Result.
January 11	Small-pox	1	Steamship Nurnberg	Bremen	Discharg'd
May 27	Bilious fever	1	Steamship Whitney	Vera Cruz	Discharg'd
July 12	Wound of foot	1	Steamship Bolivar	Vera Cruz	Discharg'd
August 23	Chagres fever	1	Steamship Historian	Colon and West Indies.	Discharg'd
August 26	Colitis	1	Steamship Historian	Colon and West Indies.	Discharg'd
August 26	Malarial fever	1	Steamship Historian	Colon and West Indies.	Discharg'd
August 27	Continued fever	1	Bark St. Olaf	Rio de Janeiro	Discharg'd

The Steamship Nurnberg had on board 85 crew and 173 passengers from Bremen. Arrived on January 11, 1881, with one case of small pox on board. The crew and passengers had been vaccinated by Dr. Noer, the accomplished surgeon of the ship, on January 5th. Not one case presented the least sign of successful vaccination. Everybody on board was re-vaccinated at this station, and the case removed to the hospital. Of the 257 vaccinated, 254 were secondary vaccinations; 3 were primary vaccinations; 98 secondary vaccinations were successful; 3 primary vaccinations were successful.

LIST OF VESSELS LOADED FROM RIO DE JANEIRO AND VERA CRUZ, ARRIVING AT THE MISSISSIPPI QUARANTINE STATION, AND REQUIRED TO DISCHARGE CARGO FOR PURPOSES OF BETTER PURIFICATION AND DISINFECTION OF VESSEL AND CARGO.

Date of Arrival at Mississippi River Quarantine. 1881	Vessel.	From	Date of Departure from Port	Number of Bags of Coffee.	Sick on Board and Sent to Hospital in Rio.	Released from Quarantine.
March 14...	Bark Maria.....	Rio.....	December 12...	5,000	2	March 27
" 14...	Bark Stephanie ...	Rio.....	" 17...	5,040	2	" 27
April 8...	Bark Eastern Chief.....	Rio.....	January 27...	7,064	5	April 19
" 9...	Bark Nancy Holt.....	Rio.....	February 21...	6,000	1	" 23
" 9...	Brig Finnrid	Rio.....	" 6...	5,500	5	" 23
May 1...	Bark Just, H. Ingersoll..	Rio	March 13...	11,160	.....	May 13
" 3...	Steamship Nasmyth.....	Rio.....	April 12...	28,054	.....	" 15
" 10...	Bark Venice.....	Rio.....	March 21...	10,500	1	" 24
June 6...	Brig Anita Owen.....	Rio.....	" 31...	1,006	.....	June 19
July 10...	Bark Ellen Holt.....	Rio.....	May 23...	5,671	.....	July 26
" 30...	Ship Virginia.....	Rio.....	June 12...	4,600	.....	August 13
August 17...	Bark Glitner.....	Rio.....	July 4...	5,000	.....	" 31
" 22...	Bark St. Olaf.	Rio.....	" 4...	4,610	.....	September 5
September 19...	Schooner Seguin.....	Vera Cruz.	September 7...	2,328	.....	" 30
" 27...	Brig John Wesley.....	Rio.....	August 15...	6,961	.....	October 17
" 30...	Bark Berville.....	Rio.....	" 13...	5,000	.....	" 10

QUARANTINE STATION, MISSISSIPPI RIVER,
January 5, 1882,

Dr. Joseph Jones, President of the Louisiana State Board of Health:

Dear Sir—I herein forward you a classified list of vessels passing this station during the month of December, which completes the year 1881:

NUMBER OF VESSELS PASSING MISSISSIPPI RIVER QUARANTINE STATION.

Months.	Steamships.	Ships.	Barks.	Brigs.	Schooners.	Total.
November..	47	14	18	2	9	90
December..	43	5	23	2	10	85
Total.....	90	19	43	4	19	175

You will see by the total arrivals (1042) that we have had 229 vessels less than the year previous, which is a great decrease, and has diminished our receipts nearly $4000. The falling off is due to the partial failure of crops, the low rate of freights, and the inauguration of "ten days' quarantine" during the past year; however, I think we should thank a kind Providence, and congratulate ourselves on the fact that we have passed another year without any infectious or contagious disease passing the station.

Very respectfully, your obedient servant,

J. F. FINNEY, M. D., Resident Physician.

REPORT OF W. H. CARSON, M. D., RESIDENT QUARANTINE PHYSICIAN, RIGOLETS STATION, FORT PIKE, LOUISIANA

To the Honorable, the President and Members of the Board of Health, State of Louisiana:

Gentlemen—I have the honor to present the following for your consideration, as a report of my labors at the Rigolets Quarantine Station, Fort Pike, Louisiana, during the past quarantine season of 1881.

The quarantine station was opened and placed in working order commencing May 6, 1881, and ending October 31, 1881.

The total number of vessels noted and reported as passing the station, undergoing boarding and inspection and receiving permits to proceed, amounts to one thousand three hundred and fourteen (1314), of which number seventy-nine (79) were steam vessels and one thousand two hundred and thirty-five (1235) were schooners, sloops and luggers.

The crews of these vessels numbered, in the total, four thousand seven hundred and forty (4740), and the passengers numbered two thousand five hundred and ninety (2590.

I am pleased to state that, during the entire season, no vessel visited this station with any evidence of infection of any nature or with the slightest suspicion of such condition.

I would state in this connection that but four vessels, large schooners, generally termed "outsiders," the Emma White, Henrietta Esch, Geo. W. Dill and the Stella, presented themselves at this station during the season from ports of departure where any possible suspicion of infection was warrantable or justifiable, the first named coming from Cedar Keys, Florida, the remaining three from Tuxpan, Mexico. All received the usual and customary sanitary attention of cleansing, disinfection and fumigation. All were in ballast with iron and without any porous material calculated to convey infectious or contagious disease.

On the thirty-first of August, 1881, I was informed by telegram from President Jones of the anticipated approach of an infected vessel, the schooner "Vernal," clearing from a Mexican port; ordering her detention subject to orders, and ordering me to report the condition and all other matters of importance; the vessel, however, never appeared at the station, but it is reported was obliged to put in at Mobile Bay in distress.

The above about completes all that can be said in regard to the practical quarantine operations at this station for the season just closed.

In regard to the revenue, the collection of quarantine fees, the difficulty still exists, with no tendency towards improvement, but rather to grow worse.

The kindly expressions from members of the Finance Committee, as well as other members of the Board, to the effect that any opinion of mine relative to the revenues and finances of the station would be extremely acceptable, and that all consideration would be shown any suggestion presented, justifies as well as induces me to make the following statements relative to the collection of quarantine fees and its co-attending features.

The schedule of quarantine fees has been changed more than once during the past season, and on each occasion reduced in a spirit of liberality and kindly feelings to satisfy all parties concerned, and hoping to make the collection of quarantine fees by a small tax, as well as to lessen, I am informed, the delay and difficulty of collection by the boarding officer.

The various reductions of the schedule of fees have still failed to give the satisfaction desired and achieve the result desired to be obtained, and again does indirectly an injustice to the resident physician, which, I am quite satisfied, never entered into their reckoning when framing the schedule; a condition of affairs and annoyance which the committee never intended, and would not have permitted had they any knowledge of the fact, or their attention been called to it. The point I refer to, and to which I would call the special attention of the Board, that as the last revised schedule of quarantine fees now stands adopted, August 22, 1881, wherein the schedule of fees for the second time revised, steamboats and schooners are rated and taxed at one dollar, a deduction from five to one in behalf of the steamboat, and a dollar and a half in behalf of the schooner, from that charged in the opening of the quarantine season.

This, the last reduction, still failed to give the satisfaction desired, or to increase the revenues of the station, and created additional burdens, fatigue and danger that the gentlemen never anticipated, or for a moment intended, inasmuch as vessels that previously would not pay a copper in the *day*, and that formerly would lay over and anchor at *night*, now deemed it to their interest and advantage, when caught by nightfall, to pay this modicum of a dollar and rouse the resident physician at all hours, and in any weather, to board, inspect and grant them permit and release. These vessels previously, when in quarantine after senset, when the resident physician was legally relieved from boarding, would come to an anchor and await for the morrow's sunrise and then proceed defiantly on, and without impost or payment of the schedule tax, to their port of entry.

It has been understood and customary for the Resident Physician, in many seasons past, to board and inspect all vessels after sunset, so requesting, upon their payment of the schedule rate of quarantine tax fee—no extra charge being allowed or provided for. The law in regard to quarantine does not call or compel the Resident Physician to board or inspect after sunset, but in view of the small revenue attending the station it has been, as I have before remarked, the custom of the Resident Physician to board and inspect, facilitating commerce as well as collecting the tax fee not otherwise assured.

This, in the main, was reasonable and without objection, and such boarding and collection of tax fees has been the practice, and still continues to be. And now that the situation has, I believe, been intelligently explained, I do not doubt but what some consideration and relief is requisite in the matter.

When you take into consideration that the Resident Physician is aroused often three, four and five times a night, at any time and in all weather, to board and inspect vessels (that, as I before remarked, would not pay a copper in the day), his boatmen being relieved and assured of their time and rest, the inconsistency is manifest. I have presented this unlooked for annoyance as full and complete as possible, satisfied that the gentlemen of the committee framing this schedule of tax fees and now in force, all of whom I am personally acquainted with and entertain the highest respect for, will provide a suitable remedy.

It is to be hoped that, in the near future, some improvement in the surety and mode of collection of this quarantine tax fee will be assured. If congressional action is necessary in the premises, it should be early and promptly applied for, soliciting their favorable action to relieve much of the embarrassment and indignity attending the present form of collection. A quarantine fee bill, without compulsory and without legal support, is superfluous, embarrassing to the official and in the main inoperative. To depend upon the benevolence, charity and sanitary interests on the part of owners of vessels of this class, in protecting the health of the community in general by the payment of a minimum quarantine tax, is deplorable, deceptive and untrustworthy. No quarantine fee bill should be framed that cannot be collected and enforced under compulsion if necessary. Although my quarantine fee collections twice exceed any for many years past, but in a slight degree represent what might be collected. The station should unquestionably be self-supporting, and yield under more favorable circumstances no mean surplus.

I would especially call the attention of the Board to the unsuitable location, and the attendant requirements necessary to carry out an effective and proper quarantine. The attention of the board has been called to the many wants and deficiences existing at this station, by most of my predecessors, and the same condition still exists, only in a more intensified and aggravated form. That the location is unsuitable is undeniable; though within an hour or so between the Quarantine Station and New Orleans, no assurance can be placed in the character of communication, the nearest telegraphic communication and only accessible by water, is four or five miles distant and can only be reached in the calmest weather, not considering the course or strength of tide or the disturbing features resulting from the detailing from the small force employed to send a telegraphic message such a distance. The regular mail reaches the station once a week and is extremely uncertain and unsatisfactory, one official communication often accompanying another though differing in dates many days, yet arriving at the station the same moment.

The quarters of the boatmen are in a most deplorable condition, and it is safe to assume that, on the opening of the coming season, they will be positively uninhabitable. The wharf is in a most wretched and wrecked condition and in a short time will have wholly disappeared.

In view of the many deficiencies, the unsuitable location, the deplorable condition of the buildings and the poor and inadequate facilities for boarding, I would respectfully suggest to the Board some location in

the immediate locality of the Rigolets Bridge, where the better supervision of vessels could be obtained, more sure and quick mail facilities assured, and in every way the efficiency of the "Rigolets Quarantine Station" be improved.

A new white-hall boat has been furnished the station the past season, allowing the old boat, some years in use, to be repaired and made serviceable, only however, in mild weather. The new boat has been found in every way serviceable and satisfactory.

Thanks are due Mr. Thomas Cooney, Ordinance Sergeant, U. S. A., in charge of Fort Pike, Louisiana, for the safety and preservation of a quantity of quarantine stores deposited in the casements of the fort. On the sixth, seventh and eighth of February last a violent storm raged, backing up the waters to such an extent and height as to flood cellars, gun-rooms and casements to the depth of two or three feet, relieving the quarantine yawl of all of her supports and washing her out to the parade ground. The other stores, much of which was perishable, were secured and placed in safety, but a barrel of copperas escaped and was totally dissolved in the waters, not a pound of the chemical remaining. This constitutes the greatest loss, and much credit is due Sergeant Cooney, in preventing further damage and loss, and his disinterested conduct in this connection. All stores now on hand I have left in his charge, he of course assuming no direct responsibility.

These stores and all other property have been carefully packed and appropriately stored, a complete and detailed list of which is herewith furnished.

In conclusion I would bear testimony to the trustworthiness and efficiency of my subordinates at the station, each in their respective capacities of boatmen and watchman: Joseph, Frederick and Lewis, boatmen, and Loring D. Allen, watchman, all rendering full satisfaction and strict observance of discipline.

I have the honor to be, gentlemen, very respectfully, your obedient servant,

W. H. CARSON, M. D.,
Resident Physician, Rigolets Quarantine.

REPORT OF N. L. SIGUR, M. D., RESIDENT PHYSICIAN, ATCHAFALAYA STATION.

MORGAN CITY, February 9, 1882.

To the President and Members of the State Board of Health, New Orleans, La.

Gentlemen—I have the honor to submit to you my official report of the operations at this station during the quarantine season of the past year ending October 31, 1881.

The number of vessels frequenting this port was about the same as that of the preceding year, one hundred and nineteen steamships and eighty-one schooners, hailing chiefly from Galveston, Indianola and Brazos. The ships carried, besides their cargo and regular crew, a great many passengers, about ten thousand in number, showing at this point a great increase in travel. The schooners had only their crew and cargo. All were inspected upon their arrival, and it affords me pleasure to state that no sickness of an epidemic or contagious character has manifested itself this season, either at the port of Brashear or in Morgan City.

Out of so many vessels, only one came from an infected place. This was the steamship Whitney, which left Vera Cruz on the twenty-sixth of October, with full cargo, thirty-nine crew and fifteen passengers. Although provided with a clean bill of health from the Mexican authorities, she was stopped by me upon her arrival at quarantine station on October 30, and it was only after the required inspection, detention and fumigation, that she was allowed to proceed to Morgan City. I found the ship in good sanitary condition, the crew and passengers in excellent health, with the exception of an old English gentleman who labored under a severe attack of malarial fever which yielded readily to the free administration of the sulphate of quinine.

Hoping that the coming year will prove as healthy as the last, I have the honor to subscribe myself,

Very respectfully, your obedient servant,

N. L. SIGUR, M. D.,
Quarantine Officer, Atchafalaya Station, for 1881.

GENERAL REVIEW OF THE FINANCIAL OPERATIONS OF THE BOARD OF HEALTH OF THE STATE OF LOUISIANA. 1870-1881.

In the history of Louisiana no Board of health has to meet graver responsibilities, and at the same time has had less support from the State and city governments.

In proof of this proposition, we have to look, on the one hand, to the large sums received by former Boards of Health from the Legislature and City Council and the results accomplished, and, on the other hand, at the magnitude of the work which has devolved upon the present Board, and which, in virtue of the most rigid economy, its judicious expenditures have been successfully accomplished.

In 1869 the Board of Health received from the Legistature of Louisiana $19,258 85; in 1870, $4625; 1871, $1630; 1872, $2916; 1873; $3561; 1875, $18,000; 1876, $6751; total received by the Board of Health from the Legislature for the support of quarantine during the seven years specified, $56,735 85.

Amounts paid by the city of New Orleans for disinfectants ordered by the Board of Health: In 1870, $2851 77; 1871, $1448 21; 1872, not recorded; 1873, $16,069 83; 1874, $2482 35; 1875, $12,376 25; total paid by the city of New Orleans for disinfectants during five years, $35,128 51.

The amount stated, $56,735 85, as paid by the Legislature for the support of quarantine during the years specified, 1869-1876, represents the cash received from the sale of State warrants, the sums appropriated being far greater.

The amount stated, $35,128 58, as paid by the city of New Orleans for disiefectants, 1870-1875, does not include the outstanding claims. Neither does this amount include the salaries of the Sanitary Inspectors and Sanitary Police, paid by the city, which exceed the annual budgets of the City Council appropriated to the Board of Health during the past two years.

As a grand result of the appropriations by the Legislature for quarantine purposes, and by the City Council solely for disinfectants, during seven years, 1869--1876' we have the imposing sum of $91,864 36.

The preceding statements have been based upon the following statistics, which are presented in full, as they form important data in the history of the Quarantine and Sanitary Affairs of Louisiana.

RECEIPTS OF BOARD OF HEALTH, STATE OF LOUISIANA, 1869-1881.

YEARS.	Mississippi Quarantine.	Rigolets Quarantine.	Atchafalaya Quarantine.	Recording Births, Deaths and Marriages.	Coal Oil Inspection.	Privy Permits.	Interment Permits	Body Permits.	Building Permits.	Fines.	Miscellaneous.	State of Louisiana.	City of New Orleans.	Total.
1869	$23,960 00	$3,557 60	$1,027 50								$95 00	$19,258 85		$47,898 95
1870	21,012 50	2,947 60	950 00								75 00	4,625 00		29,670 60
1871	23,704 50	255 00	1,160 00							$60 50		1,630 00		26,149 50
1872	18,903 50	817 60	1,950 00									2,910 00		24,591 15
1873	18,336 69	1,635 65	1,989 00							10 00	19 50	3,561 60		25,541 84
1874	19,280 60	445 15	277 50								2 00			20,005 25
1875	13,801 50										13 60	18,000 00	$379 25	32,194 35
1876	19,347 02	674 15	40 00							61 00	215 60	6,751 00	187 78	27,276 55
1877	15,109 60	301 85	60 00	$1,389 32	$5,218 51	$175 80	$122 00	$90 00	$121 00		171 00		991 47	23,750 55
1878	19,931 00	93 50		2,827 79	8,839 55	569 50	221 00	142 00	128 00					32,752 34
1879	18,114 75	178 00	22 50	2,872 61	7,192 50	1,731 20	175 25	133 75	87 50		10 45		115 00	30,634 51
1880	21,872 00	174 75		3,106 69	6,725 00	2,610 50	58 00	49 75	14 00	100 00	48 00	1,181 25		35,939 94
To September 1, 1880	$12,692 00	$91 02		$1,673 58	$4,851 00	$2,264 25	$39 25	$33 25	$9 50	$100 00		$1,181 25		$22,835 10
To September 1, 1881	$12,222 00	$286 50		$1,731 54	$4,591 00	$1,721 25	$40 25	$35 00	$25 25					$20,652 79

EXPENDITURES OF BOARD OF HEALTH, STATE OF LOUISIANA.

Years.	Mississippi Quarantine.	Rigolets Quarantine.	Atchafalaya Quarantine.	Coal Oil Inspection.	General Expenses.	Total Expenditures.	Liabilities at End of Year.
1869	$15,019 85	$2,941 33	$1,474 60	.....	$8,310 89	$27,746 66	.....
1870	13,201 28	2,543 21	2,259 50	.....	8,950 01	26,954 00	.....
1871	14,285 19	1,940 64	1,308 10	.....	10,772 31	28,306 24	$1,800 60
1872	12,402 84	895 35	981 00	.....	10,377 49	24,656 68	5,362 00
1873	13,493 73	1,557 08	699 10	.....	9,893 74	25,643 65	6,000 00
1874	11,557 10	380 85	190 00	.....	7,325 10	19,453 05	10,826 36
1875	9,598 59	1,347 97	1,320 00	.....	17,098 73	29 365 29	4,539 50
1876	14,038 97	662 32	51 80	.....	7,854 32	22,607 41	4,199 61
1877	9,314 71	1,387 66	847 50	$1,556 00	8,934 46	23.040 33	May, 4,668 04 3,003 63
1878	13,858 80	929 19	711 99	2,991 20	13,574 72	32,065 90	4,668 04 1,399 34
1879	9,869 21	1,599 23	1,134 49	2,751 88	12,933 89	27,288 70	4,668 04 2,957 73
1880	14,388 91	1,720 17	813 83	2,667 30	15,434 33	35,025 04	4,640 29
Up to Sept. 1, 1880	$8,305 93	$1,093 36	$437 50	$1,777 50	$8,242 88	$19,857 17	.....
Up to Sept. 1, 1881	$13,239 23	$1,019 50	$460 00	$1,686 75	$9,109 93	$15,515 41	.....

STATEMENT OF THE AMOUNT PAID BY THE CITY OF NEW ORLEANS FOR DISINFECTANTS, FROM 1870 TO 1881.

1870			
June	11—Pickles & Albers	$407 30	
July	20—Pickles & Albers	140 20	
September	15—F. B. Albers	24 00	
November	4—F. B. Albers	2,281 27	
	Total amount expended in 1870		$2,851 77
1871			
June	24—F. B. Albers	$77 12	
August	9—F. B. Albers	2,371 09	
	Total amount expended in 1871		$2,448 21
1872.			
No record.			
1873.			
April	29—Thos. Pickles	$136 20	
May	17—Dr. Albers	85 75	
June	21—Dr. Albers	29 90	
August	15—W. J. Kelly	189 98	
September	5—W. J Kelley	59 15	
October	14—W. J. Kelly	88 75	
December	28—W. J. Kelly	97 25	
1874.			
March	14—W. J. Kelly	323 75	
March	26—W. J. Kelly	50 00	
May	25—Page & Co	3,000 00	
June	6—Page & Co	3,000 00	
June	23—Page & Co	3,664 22	
June	23—Page & Co	5,205 92	
June	23- Page & Co	129 86	
1875.			
March	10—W. J. Kelly	10 00	
	Total amount expended in 1873		16,069 8ε
1874.			
June	6—W. J. Kelly	$163 35	
June	30—W. J. Kelly	118 50	
October	21—W. J. Kelly	107 25	
1875,			
January	13—Thos. Pickles	92 00	
February	16—W. J. Kelly	54 30	
March	10—W. J. Kelly	349 35	
December	23—W. J. Kelly	1,165 60	
1876.			
May	3—W. J. Kelly	91 25	
1877.			
June	2—W. J. Kelly	340 75	
	Total amount expended in 1874		$2,482 35
1875.			
February	10—W. J. Kelly	$57 00	
March	16—W. J. Kelly	1,000 00	
March	22—W J. Kelly	314 55	
April	15—W. J. Kelly	15 50	
June	30—W. J. Kelly	66 20	
July	20—W. J. Kelly	12 50	
July	31—Thos. Pickles	187 90	
September	22—Thos. Pickles	1,421 45	
1876.			
January	10—Thos. Pickles	2 80	
June	14—Thos. Pickles	1,151 66	
June	26—Thos. Pickles	13 69	
August	9—Thos. Pickles	212 35	
August	16—Thos. Pickles	204 45	
August	23—Thos. Pickles	433 00	
August	30—Thos. Pickles	43 13	
September	14—Thos. Pickles	1 00	
1878.			
July	1—Thos. Pickles	1,071 13	
July	26—Thos. Pickles	259 11	
August	2—Thos, Pickles	110 38	
1879.			
September	25—Thos. Pickles	68 55	
October	7—Thos. Pickles	500 00	
1880.			
October	7—Thos. Pickles	920 33	
November	4—Thos. Pickles	79 68	
December	29—Thos. Pickles	1,581 84	
December	31—Thos. Pickles	1,464 02	
1881.			
January	6—Thos. Pickles	1,184 14	
	Total amount expended in 1875		$12,376 35

1876.				
February	23—Thos. Pickles		57 20	
April	13—Thos. Pickles		29 00	
May	6—Thos. Pickles		459 75	
September	28—Finlay & Co		261 78	
October	5—Finlay & Co		175 68	
October	7—Thos. Pickles		364 10	
October	12—Finlay & Co		1,306 10	
October	15—Finlay & Co		110 96	
October	19—Thos. Pickles		360 00	
October	19—Thos. Pickles		384 00	
November	8—Finlay & Co		20 75	
December	7—Finlay & Co		14 26	
	Total amount expended in 1876			$3,543 58
1877.				
March	15—Thos. Pickles		$51 09	
May	11—Thos. Pickles		119 70	
June	16—W. J. Kelly		15 21	
August	16—Finlay & Co		2,856 18	
	Total amount expended in 1877			$3,041 18
1878.				
February	6—Finlay & Co		$63 59	
May	28—Finlay & Co		12 98	
August	2—Finlay & Thompson		14 24	
1879.				
August	16—Streubel & Co., for sprinkling disinfectants		235 00	
August	19—Finlay & Thompson		2,500 00	
August	19—Streubel & Co., for sprinkling disinfectants		408 50	
August	26—Finlay & Thompson		2,221 32	
September	6—Finlay & Thompson		2,406 50	
September	6—Balder, Adamson & Co		422 18	
September	6—I. L. Lyons & Co		1,214 45	
September	6—Finlay & Thompson		219 15	
September	6—Streubel & Co., distributing disinfectants		47 50	
September	28—Finlay & Thompson		139 36	
October	1—Balder, Adamson & Co		364 67	
October	1—Finlay & Thompson		1,250 55	
October	17—A. Vizard		103 50	
October	17—Page & Co		252 00	
November	8—A. Vizard		32 00	
1880.				
January	26—Finlay & Thompson		30 00	
December	22—Finlay & Thompson		269 73	
	Total amount expended in 1878			$12,207 22
				$55,020 49

RECAPITULATION.

Amount paid for the year 1870	$2,851 77
Amount paid for the year 1871	2,448 21
Amount paid for the year 1872	.....
Amount paid for the year 1873	16,069 83
Amount paid for the year 1874	2,482 35
Amount paid for the year 1875	12,376 35
Amount paid for the year 1876	3,543 58
Amount paid for the year 1877	3,041 18
Amount paid for the year 1878	12,207 22
Amount paid for the year 1879	.....
Amount paid for the year 1880	.....
	$55,020 49

N. B.—The amounts above stated are the actual amounts paid by the city of New Orleans, to January 29, 1881, but there are still amounts due to sundry parties for disinfectants furnished during several years, which are still unpaid.

On the other hand, during the years 1880, 1881, 1882 and 1883, not one farthing has been appropriated by the Legislature to the maintenance of her quarantine establishments, and the City Council has appropriated an amount in the annual budgets inadequate to the pay of the sanitary inspectors and sanitary police, leaving nothing whatever for the purchase of disinfectants.

The Board of health paid during the year 1880 the following sums, which should have been paid by the City Council: To I. L. Lyons, balance of account for disinfectants, $428 64; to G. R. Finlay & Co., for disinfectants furnished in 1880, $667 82; to salaries of sanitary inspectors, $1550; to G. R. Finlay & Co., for disinfectants supplied during this year, in addition to the amount stated above, $334 92. We have thus a total of $2930 38, paid by the Board of Health out of the revenues derived from the quarantine fees, the registration of births, deaths and marriages, privy permits and coal oil inspections, for material and services justly chargeable to the city.

When, in accordance with the organic acts of the Legislature of Louisiana, the President of the Board of Health assumed the direction of the quarantine establishments of Louisiana in April, 1880, he found them in a dilapidated and deplorable condition.

At the Mississippi Quarantine Station, the fever hospital, and more especially the small-pox hospital, which had been occupied as a residence by one of the officers, were in wretched condition. The quarantine boat house and wharf were undermined and unsafe; in fact, it was necessary to moor the physician's boat in the river, without protection from the rain, at the government wharf. The inside of the quarantine boat had been stove, and it was necessary to replace it with one capable of executing the hazardous labors of boarding in the treacherous waters of the Mississippi River.

The levees were broken and the drains of the hospital grounds were open, without fences, and were roamed over by cows, horses and hogs. The graveyard was a mass of tangled brushes, brambles, briars and sedge grass.

The plastering of the hospital walls was broken, the windows open, the roof leaking, and there was an absolute absence of all decent and comfortable beds and bedding. The supply of drugs and medicines and medical appliances was exhausted.

After carefully viewing the situation the first work accomplished by the executive of the Board, with the advice of Col. I. N. Marks, the able and patriotic chairman of the Finance Committee, and the assent of the Board, was the equipment of the hospital with beds, bedding, mosquito bars, blankets, sheets, crockery, cooking stoves and utensils, and a full supply of fresh, pure drugs. In 1880 the Board was without the necessary funds, and the season so far advanced that it was out of the question to attempt any repairs during the summer and fall. But as soon as funds had been accumulated by the most rigid economy, upon the urgent recommendation of the President, indorsed by the chairman of the Finance Committee, about $6000 was devoted to the repair of the Mississippi Quarantine Station.

Estimates were made by the State engineers, but the contract was awarded to private parties, who executed the work at the lowest possible figures, and the Mississippi Quarantine Station was placed in an effective condition and in complete repair, and was thoroughly equipped by the first of March, 1881; and but for the diversion of a portion of the funds to pay the sanitary inspectors and sanitary police in the autumn and winter of 1880, it would have been possible to have placed the Rigolets Station in comparative effective condition.

A detailed statement of the expenditures at the Mississippi Quarantine Station will be presented under the appropriate head.

Under the system of rigid economy exercised by the Finance Committee, acting in full accord with the President of the Board, the following important works have been accomplished during 1880-1881:

1. The publication of one thousand copies of the Acts of the Legislature of Louisiana establishing and regulating quarantine for the protection of the State; organizing and defining the powers of the Board of Health; and regulating the practice of medicine, midwifery, dentistry and pharmacy, rules and regulations of the Board of Health, and ordinances of the city of New Orleans. This volume of 100 pages, illuminated by valuable maps, illustrating the position of the quarantine establishments and the medical topography of New Orleans and lower Louisiana, was digested, consolidated and passed through the press by the President without any cost to the Board of Health, except in the mere matter of printing and paper.

2. The preparation, publication and distribution by the president to the shipping agents, shipping masters, and captains, and foreign consuls, and leading merchants in the port of New Orleans, 7500 copies of the rules and regulations of the Board of Health governing quarantine.

Upon assuming the duties of President of the Board of Health of the State of Louisiana, in April, 1880, the necessity for collecting and publishing all the laws of Louisiana, bearing on sanitary science and public hygiene, was at once realized, as the acts of the Legislature, the ordinances of the City Council and the rules and regulations of the Board of Health were scattered through various official documents, or existed only in manuscript in the archives of the City Hall and Board of Health. Measures were taken for the collection of the existing laws and ordinances, and the importance of their publication for the guidance of the officers and employes of the Board of Health, and the public, in the execution of sanitary measures and reforms, was urged upon the Board of Health.

Notwithstanding the pressure of official duties, the President deemed this work of such importance in its bearing upon the public welfare, that he embraced every opportunity and every moment of time for its successful completion.

The labor by the President in the collection and classification of the quarantine laws of the State, and ordinance of the Board of Health and City Council, was indorsed by the Board of Health, and their publication at the earliest practical moment granted.

On the fourteenth of October, 1880, the laws of the State of Louisiana regulating the establishment and enforcement of quarantine for the protection of the State, and defining the powers of said Board of Health; also, the health ordinances of the city of New Orleans, and the rules, regulations and forms of the Board of Health, were published and distributed to the State and civil officials, and to the prominent physicians and sanitarians of this and other Southern and Western States.

3. The publication and distribution of one thousand copies of the circular of the committee charged with the arrangement and programme of the quarantine convention; the prompt payment of all the expenses incurred in the conduct of the quarantine convention.

Whilst the quarantine convention, as a body, was deaf, dumb and blind to matters relating to quarantine and sanitary science, and to the welfare of Louisiana, nevertheless its discussions revealed the plan of action of the enemies of this board, which was vigorously executed during the winter of 1880 and 1881, and the spring of the latter year, by certain voluntary associations in this city and elsewhere.

4. The weekly publication and distribution to the chief health officials in this country and Europe of the mortuary and meteorological statistics of the Board of Health. All important reports of committees, and all matters relating to the health of this city and State, published in the daily press of New Orleans, have in like manner been promptly forwarded to the Boards of Health and Quarantine Stations in surrounding States.

By such measures, neighboring States, and especially those of the valley, were divested of all excuse for establishing quarantine against a healthy city.

5. The publication and distribution of 3000 copies of the annual report, in accordance with the formal resolution of the board. Said report was illustrated with maps, charts and lithographs, and distributed to the members of the State Legislature and of Congress, and to all known boards of health and health organizations. This work was published at the lowest possible cost, and the demand has been so great for it, not only in this but in other States, that the entire edition is now well nigh exhausted.

6. The prompt payment of the pay-roll of the Board of Health, which now amounts to $2400 per month.

No board of health has ever before attemped to carry out effective quarantine inspection at the mouth of the river, to maintain an inspection at Port Eads, or to maintain inspectors of shipping for the river front and the Old and New Basins. In this respect alone the Board of Health has a monthly expense of $250 above that of any former board. The system of harbor and basin inspection, as well as that of the hygienic conduct of ships, was proposed and perfected by the executive officer of this board.

At the present moment, the active force of the Board of Health consists of: The President, the Secretary and Treasurer, two clerks for the registration of deaths, births and marriages, clerk and book-keeper, messenger and collector, two coal oil inspectors, two police deputy inspectors of shipping in the Mississippi river and in the Old and New Basins, one porter; two quarantine officers at the Mississippi Stations, four boatman, one watchman, one nurse, one keeper of hospital grounds; at Port Eads—one quarantine inspector and two boatmen; at Rigolets—one quarantine physician, two boatmen and one watchman; at Atchafalaya; one quarantine physician and one boatman.

The officers and employees of the board of health proper, therefore, number about twenty-seven.

The preceding estimate does not, of course, embrace the Sanitary Inspectors and Sanitary Police, paid by the city out of the budget appropriation to the Board of Health. This sanitary corps consists of six inspectors and twelve policemen—total, 18.

The entire effective force of the board of health during the years 1880 and 1881, officers and men, was about 45.

Not only has the entire corps been promptly paid, but the four quarantine stations have been fully supplied with disinfectants, coal oil for lights, and all the necessary equipments for the boats and hospitals; and the Board of Health has purchased and distributed gratuitously to the poor of the city of New Orleans, during the years 1880 and 1881, about 150,000 pounds of copperas, 150 gallons of carbolic acid, 9000 pounds of sulphur.

Under the able management of the Chairman of the Finance Committee, acting in full accord with the executive officer of the Board of Health, every obligation has been promptly met by cash payments, and the present small amount of money in the treasury of the board is an evidence that its revenues have been faithfully and promptly applied in accordance with the laws for the protection of the people from foreign pestilence, and for the prevention and arrest of disease in our midst.

New Orleans, during the past two years, 1880 and 1881, has been free from yellow fever, and all contagious or pestilential diseases, and this result has been accomplished at an annual cost of about $50,000 (fifty thousand dollars). Of this amount, the city of New Orleans has annually contributed $10,000; and the remainder ($40,000) has been collected chiefly from quarantine fees and the small amounts paid for the registration of births, deaths and marriages, etc.

We have a board of health upon which the greatest responsibility rests, and which is charged with the execution of the most important offices with reference to the protection of the Mississippi Valley from the importation of foreign pestilence, and yet no man within the bounds of Louisiana feels the burdens; for so skillfully and wisely have the sanitary and quarantine laws been framed, that there is no direct taxation, with the exception of the small amount furnished by the city. The revenues derived from the quarantine fees are returned a thousand fold to the merchants and shippers, ship masters and seamen, in that foreign pestilence is excluded, the health and hygiene of ships im-

proved, and the sick seamen carefully and comfortably treated in commodious hospitals.

The citizens of New Orleans derive great benefits from the registration of births, deaths and marriages, in various ways; but we will direct attention to only the following results flowing from this portion of the labors of the Board of Health:

1. The preservation of accurate records of the names, ages, nativity, residences, attending physicians, and diseases of all fatal cases, furnishes the only date upon which a correct estimate may be based as to the rate of mortality and the nature of the prevailing diseases. The systematic consolidation and publication of these statistics at regular intervals has enabled the executive of the Board of Health to meet and overthrow the slanders constantly launched by the enemies of New Orleans against her reputation for health. Whilst the cost of such publications enters as a considerable item in the expenses of the board, the return thus far in the maintenance of friendly relations with the health authorities of surrounding States, and in the prevention of senseless and destructive inter-State quarantines, has been more than one million fold. In addition to the preceding considerations, it is well known that upon an accurate record of deaths numerous questions of life insurance and successions of property frequently hinge. A stranger dies in New Orleans; he leaves a widow and several children; he also leaves a policy in a life insurance company. The payment of the policy to the destitute widows and orphans depends absolutely upon the establishment of the proofs of death, including date, place and cause. The records of the Board of Health furnish the necessary particulars. Hundreds of thousands of dollars annually depend upon the truth and accuracy of these records. Again, it is of the utmost importance that the ballot-box should be kept sacred and free from fraud. The daily mortuary records of New Orleans furnish the data by which the list of voters is constantly purged of what might be called literally "Dead Heads" in contradistinction of the dead-heads and deadbeats of sailor boarding-houses, corner groceries, unoccupied vacant lots and the charity wards of the eleemosynary institutions.

2. It is impossible to over-estimate the value of accurate records of births and marriages upon the welfare of the citizens; the simple records of births or deaths may decide, upon one side or the other, the suit for valuable possessions, and either establish or destroy the claim to honorable and untainted birth.

3. Questions relating to age, sex, race, occupation and nativity can alone be studied of well-recorded and classified mortuary and vital statistics.

4. Upon the proper action of the Honorable Mayor and the City Administrators of New Orleans, in providing the necessary means for the payment of the Sanitary Inspectors, and in furnishing the necessary police, and the necessary disinfectants and the carts for their distribution, depends in a large measure the sanitary condition of the city of New Orleans. New Orleans has no system of sewers; the excrement from her 216,000 inhabitants, and from the masses of strangers that constantly crowd her streets, may be removed by her manual labor. It is horrible to contemplate the effect of hoarding up the vast accumulations of human filth in this damp, hot, semi-tropical climate. In the present condition of New Orleans the only method of dealing with this gigantic evil, which is a constant menace to the health and comfort to the people, is to clean the privies by mechanical means—by well-devised, odorless apparatus, and to keep them continually disinfected by cheap and reliable disinfectants accessible to all at lowest prices. As President of the Board of Health, after careful investigation, I have recommended copperas (sulphate of iron) and carbolic acid as the cheapest and most reliable disinfectants.

The constant and systematic removal of the human and animal excrements, as well as the maintenance of a good sanitary condition of all private premises, must be based upon systematic house-to-house inspection.

Thorough inspection and thorough attention to domestic sanitation requires intelligent, faithful and honest sanitary inspectors, and efficient and honest sanitary police, subjected to rigid discipline.

The organic acts of the Legislature make it imperative upon the honorable Mayor and Administrators of New Orleans to furnish an adequate police force to perform the sanitary offices indicated by the Board of Health as necessary to the preservation of the health of the people; and it is equally the duty of the municipal government to furnish the necessary funds for the payment of the sanitary inspectors and the supply of sufficient amounts of disinfectants. The continuous and efficient inspection of the shipping in the harbor of New Orleans should also be provided for by the City Council.

ESTIMATED RECEIPTS OF THE BOARD OF HEALTH, STATE OF LOUISIANA.

(*Receipts for the Ten Months Ending October* 31, 1881.)

To cash and uncollected drafts on hand January 1, 1881		$ 5,858 91
Mississippi Station—Amount fees from vessels via Station	$14,622 22	
Rigolets Station—Amount fees from vessels via Station	506 00	
Coal Oil Inspection—Amount fees gauging and inspection	2,230 14	
Recording Births—Amount fees	1,142 50	
Recording Deaths—Amount fees	2,654 50	

Recording Marriages—Amount fees	1,008 00	
Marriage License—Amount fees	1,065 50	
Record Certificates—Amount fees	91 00	
Privy Permits—Amount fees	2,039 50	
Body Permits—Amount fees	42 25	
Building Permits—Amount fees	49 25	
Interment Permits—Amount fees	51 00	
Amount received from city of New Orleans for disinfectants	500 00	
Amount divided from deposits in New Orleans Savings Institution	47 80—	26,039 66
Total		$31,898 57

(*Estimated Receipts for Two Months ending December* 31.)

To Mississippi Station—Amount of fees from vessels via station	$4,595 00	
Coal Oil Inspection—Amount fees for gauging, etc.	661 20	
Recording Births, Deaths and Marriages—Amount fees	889 50	
Privy Permits—Amount fees	100 00	
Building, Body and Interment Permits—Amount fees	7 50—	6,253 20
		$38,151 77
To balance		98 71
Total		$38,250 48

DISBURSEMENT OF THE $10,000 APPROPRIATED BY THE CITY OF NEW ORLEANS FOR THE USE OF THE BOARD OF HEALTH, STATE OF LOUISIANA, FOR ITS EMPLOYMENT OF SANITARY INSPECTORS AND POLICE, DURING 1881.

January	Five Sanitary Inspectors, at $100	$500 00	
..	One Sanitary Inspector	75 00	
..	Six Sanitary Policemen, $50	300 00—	$ 875 00
February and March	Amount of rolls, at $875		1,750 00
April	Six Sanitary Inspectors	575 00	
..	Thirteen Sanitary Policemen	425 00—	1,000 00
May	Five Sanitary Inspectors, at $100	500 00	
..	One Sanitary Inspector	75 00	
..	Eleven Sanitary Policemen, at $100	500 50—	1,125 000
June	Pay-roll same as May		1,125 00
July	Pay-roll same as June		1,125 00
August	Pay-roll same as June		1,125 00
September	Pay-roll same as June		1,125 00
October	Five Sanitary Inspectors, salary reduced to $43 48	217 40	
"	One Sanitary Inspector, salary reduced to $32 60	32 60—	250 00
November	Pay-roll same as October		250 00
December	Pay-roll same as October		250 00
Total			$10,000 00

The receipts of the Board of Health for the year 1882 will be from the same sources as at present, and will not vary materially from the estimate of 1881, apart from the appropriation by the City Council.

ESTIMATED EXPENDITURES OF THE BOARD OF HEALTH.

(*Expenditures for the Ten Months ending October* 31, 1881.)

By Mississippi Station—			
Paid resident physician	$4,166 61		
Paid assistant resident physician	1,166 60		
Paid boatmen's wages	3,052 00		
Paid for repairs to station	6,470 41—	$15,355 62	
By Rigolets Station—			
Paid salary resident physician	750 00		
Paid wages boatmen	720 00		
Paid sundries for station	52 43—	1,522 43	
By Atchafalaya Station			
Paid salary resident physician	450 00		
Paid wages boatmen	240 00—	690 00	
By Coal Oil Inspection—			
Paid Inspectors' salaries	2,000 00		
Paid for sundries	96 75—	2,096 75	
By Court Deposits—			
Amount deposited in court		12 00	
By General Expenses—			
Paid salaries officers and employees	8,803 19		
Paid sundries	2,790 22—	11,593 41	$31,300 21

(*Estimated Expenses for Two Months ending December* 31.)

By Mississippi Station—			
Paid salaries physician and boatmen		$1,786 64	
By Coal Oil Inspection—			
Paid salaries Inspectors	$400 00		
Paid sundries	20 00—	420 00	
By General Expenses—			
Paid salaries officers and employees		1,926 64	
Paid printing and lithographing annual report		1,530 00—	$5,663 28

LIABILITIES.

Balance due Woodward & Wight, supplies Mississippi Station	$190 96	
Balance due G. R. Finlay & Co., supplies to Board	935 78	
Balance due J. S. Rivers, stationery	144 85	
Balance due Danziger for draping office	15 40—	1,286 99
Total		$38,250 48

RECAPITULATION.

Expenditures for ten months	$31,300 21	
Estimated expenditures for two months	5,663 28	
Liabilities	1,286 99—	$38,250 48
Receipts for ten months	31,898 51	
Estimated receipts for two months	6,253 20—	38,151 77
Probable deficit		$98 71

STATEMENT OF SUMS NECESSARY FOR THE MAINTENANCE OF THE QUARANTINE AND SANITARY OPERATIONS OF THE BOARD OF HEALTH DURING 1882.

TO MISSISSIPPI QUARANTINE STATION.

Salary Resident Physician	$5,000 00	
Salary Assistant Resident Physician	2,000 00	
Wages of watchman	540 00	
Wages of coxswain	540 00	
Wages of four boatmen	1,920 00	
Druggist and hospital steward	900 00	
Two hospital nurses at $50 per month	1,200 00	
Hospital cook	720 00	
Medicines and hospital supplies	1,000 00	
Repairs of boats	200 00	
Disinfectants	1,500 00	
Food, bedding and supplies for sick	2,000 00	
Shipchandlers' supplies, oil for lamps, etc	500 00	
Expenses of telegrams	250 00	
Inspection expenses, towage of infected vessels	1,000 00	
Repairs of buildings	2,000 00	
Steam launch and crew	2,500 00	
		$23,770 00

TO RIGOLETS QUARANTINE STATION.

Salary Resident Physician	$900 00	
Wages of boatman	480 00	
Wages of watchman	300 00	
Purchase of grounds and erection of buildings for sick and discharge of cargo	3,000 00	
Disinfectants	300 00	
Supplies for sick, medicines, etc	500 00	
Repair of boats, shipchandlers' supplies	500 00	
		5,980 00

TO ATCHAFALAYA QUARANTINE STATION.

Salary Resident Physician	$450 00	
Wages of boatman	240 00	
Wages of watchman	240 00	
Purchase of grounds and erection of buildings	2,000 00	
Disinfectants	200 00	
Telegrams and inspection service	250 00	
		3,380 00

TO OFFICE AND GENERAL EXPENSES.

Salary of President	$2,400 00	
Salary of Secretary and Treasurer	2,000 00	
Salary Deputy Recorder Births, Deaths and Marriages	1,200 00	
Salary Assistant Recorder Births, Deaths and Marriages	1,000 00	
Salary Clerk Board of Health	1,000 00	
Salary Messenger and Collector	480 00	
Salary Porter	120 00	
Salary Quarantine Inspector, Port Eads	600 00	
Salary Coal-oil Inspectors	2,404 00	
Salary Attorney	600 00	
To printing annual report	1,200 00	
To lithographing same	400 00	
To telegrams, publication, transmission to health authorities of special reports	500 00	
To books (record of births, deaths, marriages) and stationery	500 09	
To publication, distribution of sanitary circulars, health laws, quarantine proclamations	500 00	
To rent of office of Coal oil Inspectors	100 00	
To bungs, corks and glue	130 00	
		15,300 00

ESTIMATE OF EXPENDITURES FOR THE CONDUCT OF THE SANITARY AFFAIRS OF THE CITY OF NEW ORLEANS FOR THE YEAR 1882, UNDER THE CONTROL OF THE BOARD OF HEALTH OF THE STATE OF LOUISIANA.

Six Sanitary Inspectors at $100 per month	$7,200 00	
One Sanitry Inspector	1,500 00	
Two Inspectors of Shipping in River and Basin	1,200 00	
		9,900 00

Disinfectants—		
20 pounds Copperas to each house (40,000), total Copperas 1,200,000 lbs at 1½c per lb.	1,800 00	
1,000 gallons Calvert's No. 5 carbolic acid at $1 20 per gallon	1,200 00	
25,000 pounds sulphur at 2¾c per pound	687 50	
500 barrels lime at $1 10 per barrel	550 00	
15 barrels chloride of lime at $12 per barrel	180 00	
5 barrels sulphate of zinc at $21 per barrel	105 00	
		4,522 50
Miscellaneous—		
Printing and distribution of circulars	500 00	
Office rent Sanitary Inspectors	500 00	
Vaccine matter for schools and colleges and citizens	500 00	
Disinfecting apparatus, pots, pans, etc., warehouses, shipping, dwellings, etc	500 00	
		2,000 00
Total		$16,422 50

In addition to the above the Honorable Mayor and Administrators of the city of New Orleans should furnish the Board of Health the following policemen and force for house-to-house inspection and disinfection:

First District, Sanitary Policemen	4	Third District, Carts with Drivers and Teams for the distribution of Disinfectants	1
Second District, Sanitary Policemen	3	Fourth District, Carts with Drivers and Teams for the distribution of Disinfectants	1
Third District, Sanitary Policemen	3	Fifth District, Carts with Drivers and Teams for the distribution of Disinfectants	1
Fourth District, Sanitary Policemen	3	Sixth District, Carts with Drivers and Teams for the distribution of Disinfectants	1
Fifth District, Sanitary Policemen	2	Seventh District, Carts with Drivers and Teams for the distribution of Disinfectants	1
Sixth District, Sanitary Policemen	1		
Seventh District, Sanitary Policemen	1		
First District, Carts with Drivers and Teams for the distribution of disinfectants	2		
Second District, Carts with Driver and Teams for the distribution of Disinfectants	1		

The cost to the city of an epidemic of yellow fever has been estimated at not less than $15,000,000 (fifteen millions of dollars). The estimate which, as President of the Board of Health, I have made for the conduct of the sanitary affairs of New Orleans, is not more than one-thousandth part of the cost of a single epidemic. In the conduct of the sanitary affairs of New Orleans the organic acts of our Legislature have made the City Council responsible for the prompt supply of the necessary funds for the payment of the Sanitary Inspectors, and for the purchase of the necessary disinfectants, and for the detail of the necessary police. The prompt fulfillment of these important duties by the Honorable Mayor and City Council will establish the fullest confidence in surrounding communities, and will promote the highest and best interests of the city and State in protecting foreign and internal commerce from unnecessary quarantine, and above all, in protecting the lives and promoting the health of the people.

OUTLINE OF THE QUARANTINE AND SANITARY OPERATIONS OF THE BOARD OF HEALTH OF THE STATE OF LOUISIANA FOR 1882.

MISSISSIPPI QUARANTINE STATION.

The total number of vessels inspected at the Mississippi Quarantine Station during the year 1882 were: Steamships, 615; ships, 53; barks, 160; brigs, 28; schooners, 142. Total, 998.

The total number of vessels held in quarantine was 117, distributed thus during the months: May, 16; June, 22; July, 8; August, 12; September, 28; October, 26; November, 5. The quarantined vessels came from the following ports, in the numbers specified: Rio Janeiro, 8; Havana, 49; Vera Cruz, 25; Minatitlan, 2; Celou, 11; Tampico, 2; Martinique, 5; St. Jago de Cuba, 3.

Some vessels arrived with sick on board at the Mississippi Quarantine Station on the following dates: May 8, June 21, September 3, September 29, October 4, October 15, November 16.

The total number of sick was twenty-one, with three deaths. The cases were referred to the various forms of malarial paroxysmal fever; no case of yellow fever occurred at the Mississippi Quarantine Station during 1882.

RIGOLETS QUARANTINE STATION.

Total number of vessels boarded and inspected at the Rigolets Quarantine Station, during 1882 was 933, the great majority of which were schooners.

The season of quarantine restriction at this station lasted from May 1 to November 1, and during this period no case of sickness of any nature was observed at the Rigolets Quarantine Station.

ATCHAFALAYA QUARANTINE STATION.

During the quarantine season, at the Atchafalaya Station, first of May to first of November, 1882, 129 steamships, 59 schooners and 6863 passengers were inspected. Ten ships hailed from infected ports.

QUARANTINE STATION AT ENGLISH LOOKOUT.

The Board of Health established and maintained a quarantine station, with one medical inspector and two sanitary policemen, at English Lookout, on the Mobile Railroad, from the latter part of August until the close of October, and all passengers and baggage were subjected to inspection.

QUARANTINE OBSERVATION AT PORT EADS, AT THE MOUTH OF THE MISSISSIPPI.

A quarantine officer was maintained at the mouth of the Mississippi River, from the first of May until the first of November, and vessels entering the mouth of the Mississippi River were subjected to inspection and observation.

HOUSE-TO-HOUSE INSPECTION AND NUMBER OF NUISANCES ABATED DURING 1882.

	No. of Inspections made.	No. of Re-inspections.	No. of Nuisances abated.
First District	15,981	10,091	8,639
Second District	7,995	3,646	3,172
Third District	12,160	4,822	3,086
Fourth District	9,869	2,839	2,814
Fifth District	3,690	578	650
Sixth District	4,374	1,156	813
Seventh District	2,971	566	.....
Total	57,040	23,698	19,174

In the First District, 3828 premises were disinfected, and a proportionate number in the other districts. Where contagious diseases were reported to the Board of Health, the premises were disinfected and fumigated.

MORTALITY OF NEW ORLEANS DURING 1882—MORTALITY IN THE DIFFERENT DISTRICTS IN NEW ORLEANS DURING 1882.

	Whites.	Colored.	Total.
First District	1,381	820	2,201
Second District	606	468	1,074
Third District	732	570	1,302
Fourth District	493	200	693
Fifth District	87	89	176
Sixth District	216	115	331
Seventh District	67	78	145
Total	3,582	2,340	5,922

DEATH-RATE PER 1000 INHABITANTS PER ANNUM IN THE VARIOUS DISTRICTS DURING 1882.

DISTRICT.	White.	Colored.	Total.
First	31.87	58.04	38·31
Second	19.31	35.18	24.04
Third	21.70	49.45	28.56
Fourth	16.09	28.94	18.46
Fifth	17.32	23.20	19.87
Sixth	18.07	28.20	20.65
Seventh	13.44	25.06	23.24

First District—Maximum death-rate: White, December, 44.87; lowest, September, 26.59. Colored—Maximum, April, 67.95; lowest, February, 43.32. Colored and white—Maximum, December, 49.29; minimum, July, 32.79.

Second District—White: Maximum, May and June, 24,48; minimum, March, 14.15. Colored—Maximum, May, 55.03; minimum, December, 27.96. White and colored—Maximum, May, 33.82; minimum, September, 20.14

Third District—Maximum death-rate: Whites, April. 27.39; minimum, November, 17.72. Colored—Maximum, May, 80.16; minimum, August, 30.19. Total white and colored—Maximum, April, 39.85; minimum, August, 21.58.

Fourth District—Maximum: White, December, 26.25; minimum, September, 9.79. Colored—Maximum, December, 41.67; minimum, March and September, 15.63. Total white and colored—Maximum, December, 29.09; minimum, September, 10.87.

Fifth District—Maximum, May, 33.45; minimum, June, 9.55. Colored—Maximum, 46.93; minimum, February and March, 12.51. Whites and colored—Maximum, July, 29.80; minimum, February and March, 12.19.

The death-rate rrom phthisis pulmonalis in the different districts (per 1000 inhabitants per annum) was as follows: First District, 5.01; Second District, 3.71; Third District, 3.01. The death-rate from malarial fevers: First District, 1.94; Second District, 1.36; Third District, 0.55.

MORTALITY BY MONTHS AND BY RACE.

MONTHS.	Deaths.		Total Deaths.
	W.	C.	
January	282	186	468
February	256	151	417
March	256	209	465
April	308	231	539
May	330	259	589
June	335	226	561
July	288	172	460
August	267	176	443
September	239	161	400
October	306	183	489
November	322	184	506
December	383	202	585
Total	3582	2340	5922

ESTIMATED POPULATION OF NEW ORLEANS.

Whites	163,606
Colored	59,949
Total	223,555

DEATH-RATE OF NEW ORLEANS, PER 1000 INHABITANTS, DURING 1882.

MONTHS.	Death Rate per 1000 per annum.		Death rate per 1000 per annum.
	W.	C.	W. & C.
January	20.68	37.23	25.12
February	19.51	30.22	22.38
March	18.77	41.83	24.96
April	22.59	46.23	28.31
May	24.20	51.84	31.61
June	24.57	45.23	30.11
July	21.12	34.42	24.69
August	19.58	35.23	23.77
September	17.53	32.22	21.47
October	22.44	36.63	26.24
November	23.61	36.80	27.16
December	28.09	40.43	31.40

Death-rate during first six months of 1882: whites, 21.72; colored, 42.10; total, 27.18.

Death-rate during last six months of 1882: whites, 22.06; colored, 35.96; fatal, 25.79.

Death-rate for the entire year 1882: whites, 21.89; colored, 39.03; total, 26.45.

Sex: Whites: males, 2104; females, 1478. Colored: males, 1225; females, 1115. Total males, 3329; total females, 2593.

Of the total number of deaths, 3605 were natives of Louisiana, and 977 of other States, and 1240 of foreign countries; Germany heads the list, with 441 deaths, then follows Ireland, with 420 deaths, and next France, with 187.

The deaths in public institutions numbered 1127; of which 805 occurred in the Charity Hospital. The deaths reported by the coroner numbered 1028. The deaths in public institutions, together with those reported by the coroner, amounted to 2155.

Of the total deaths occurring in New Orleans during 1882, only 3767 received medical attention in their homes and residences.

It is evident from the preceding statistics that the death-rate of the white inhabitants of New Orleans, if calculated upon a basis of actual inhabitants, exclusive of foreigners and strangers, and laborers from the levees of the Mississippi River and from the various lines of railroads, crowding the hospitals, prisons and asylums, would not exceed 15 per 1000 inhabitants per annum.

The white population of New Orleans manifested a lower death-rate (if the calculation be made upon the basis just indicated) than that of any other city of the same size and similarly situated in the civilized world.

Average daily mortality in New Orleans during the year 1882, 16.22.

Lowest daily mortality in first six months of 1882, January 19, when only six deaths occurred.

Highest daily mortality in first six months of 1882, April 29, when thirty-four deaths occurred.

Lowest daily mortality of last six months of 1882, on August 11 and October 1, when five deaths were recorded upon each of the days specified.

Highest mortality during the last six months of 1882, October 14, when thirty deaths occurred.

The highest daily mortality occurred on April 29, and the next highest on October 14.

The lowest daily mortality occurred on August 11, October 1, and January 19.

MORTALITY OF NEW ORLEANS DURING 1882, COMPARED WITH THE MORTALITY OF PRECEDING YEARS.

YEAR.	Death-rate per 1000 population per annum.		
	Whites.	Colored.	Total.
1845	25.10	22.50	24.32
1847	79.86	37.08	62.03
1849	81.92	62.91	77.44
1850	62.08	52.10	59.80
1852	67.91	43.04	62.90
1853	124.68	48.98	110.09
1856	32.98	35.66	33.89
1857	34.86	38.07	35.49
1858	69.64	80.37	72.70
1859	33.58	86.98	41.53
1860	41.99	52.79	43.51
1861	31.58	37.16	31.87
1863	37.30	59.53	41.35
1864	42.14	81.75	49.86
1865	33.32	60.88	38.99
1866	36.77	65.56	42.52
1867	56.79	47.80	54.69
1868	25.49	38.97	28.60
1869	27.29	44.80	31.73
1870	33.74	52.20	88.61
1871	27.26	42.76	31.32
1872	27.29	41.93	31.17
1873	32.79	51.42	37.73
1874	29.53	45.44	33.75
1875	26.28	40.25	30.00
1876	25.87	42.56	30.31
1877	25.96	49.02	32.11
1878	52.05	39.94	48.81
1879	20.85	32.41	23.91
1880	22 96	34.38	26.05
1881	25.79	38.95	29.31
1882	21.89	39.03	26.45

During the period of thirty-two years, embraced in the above table, with the exception of the year 1879, the death-rate among the whites was the lowest in 1882. The average death-rate for the thirty-two years among the whites, was about 39.6. Among the colored population the death-rate of 1882 was greater than that of 1845, 1847, 1856, 1857, 1861, 1868, 1879, 1880 and 1881; whilst it was less than the death-rates of 1849, 1850, 1852, 1853, 1858, 1859, 1860, 1863, 1864, 1865, 1866, 1867, 1869, 1870, 1871, 1872, 1873, 1874, 1875, 1876, 1877 and 1878.

The average death-rate per annum during the thirty-two years specified amongst the colored population was about 47.1.

During the period of thirty-two years the death-rate of the total population was lower than that of 1882, during only three years; namely, 1845, 1879 and 1880.

During the four years, 1879, 1880, 1881 and 1882, the minimum death-rate amongst the whites was 20. 85, and the maximum 25.79; whilst the minimum death-rate amongst the colored race was 32.41, and the maximum 39,03; in the total population during the same period, minimum 23.78, maximum 29.31.

The mortality amongst the whites during the last four years has been less than ever before in the history of New Orleans; and the result must be mainly attributed to the following causes and conditions:

1. The absence of any marked or great prevalence of pestilential diseases.

The small number of deaths from yellow fever in 1879 exerted no appreciable influence upon the general death-rate.

2. The freedom of New Orleans from yellow fever during the past three years, 1880, 1881 and 1882, must be attributed to the execution of the quarantine laws, and to the sanitary measures enforced by the Board of Health—measures embracing the isolation and disinfection of the first cases of yellow fever.

The prevalence of yellow fever on the east at Pensacola, Florida, and on the west at Brownsville, Texas, during the autumn of 1882, would indicate that the absence of yellow fever in the epidemic form, was not due to any peculiar climatic conditions within and around New Orleans.

3. Systematic house-to-house inspection and domestic sanitation, carried forward under the direction of the Board of Health.

4. The prompt removal of the garbage and fœcal matters of the city, and the systematic discharge of the same into the Mississippi River, in accordance with the provisions of Acts 14 and 84, of 1877.

The attempt of the honorable City Council to improve the drainage of the city was limited chiefly to the First District, and was too circumscribed in its nature to admit of a definite calculation of its effects upon the public health.

Nevertheless, the work of deepening and cleansing the drainage canals of New Orleans should be continued under the direction of skillful engineers and faithful and honest city officials.

The subject of the drainage of New Orleans was fully discussed in the annual report of 1881, and it is evident that the facts and observations need not be repeated, as the arguments for the perfection of the drainage system of New Orleans are unanswerable.

YELLOW FEVER IN 1882.

The official mortuary records of the Board of Health of the State of Louisiana contain four certificates which assign the cause of death to yellow fever; one death was reported in June, one death in July, and two in August. The subjects were all of the white race.

The interests of science as well as the advancement of the material interests (commercial, manufacturing and sanitary) of New Orleans and of the State of Louisiana demand the record of the measures devised by the Board of Health for the arrest of yellow fever in 1882.

This record possesses an especial interest and value, in that yellow fever in 1882 invaded Brownsville, Texas, in the West, and Pensacola, Florida, in the East.

The Board of Health of the State of Louisiana devised and executed the measures for the arrest of yellow fever in New Orleans during the year 1882.

FIRST CASE OF YELLOW FEVER IN NEW ORLEANS IN 1882—HENRY FORBES.

SPECIAL MEETING OF THE BOARD OF HEALTH, HELD AT 1 O'CLOCK P. M., JUNE 27, 1882.

The President, Dr. Joseph Jones, stated that he had convened the board in special session, open to the representatives of the press and of the medical profession, and, in fact, to all respectable citizens, in order that the people here, and in all surrounding

States, should receive a full and accurate statement of all the facts with reference to the occurrence of the first case of yellow fever in 1882.

On the morning of June 26, the following communication was received from Dr. A. W. de Roaldes, Surgeon in charge of the Charity Hospital:

CHARITY HOSPITAL, STATE OF LOUISIANA,
New Orleans, June 26, 1882,

Dr. Joseph Jones, President Louisiana State Board of Health:

Dear Doctor—My attention was called this morning to a patient, coming from Havana, in ward 27 of the hospital. After a careful examination, I find the case a very suspicious one, to say the least.

I would earnestly request you to call at the hospital at your earliest convenience, when I shall take pleasure in seeing the case with you.

Your most obedient servant,
DR. A. W. DEROALDES, House Surgeon.

I repaired immediately to the Charity Hospital, and ascertained the following facts at the bedside of the patient, and from the hospital register.

Henry Forbes, aged 20, native of England; has resided about ten days in New Orleans; entered Charity Hospital (ward 27, bed 396) at nine o'clock a. m., Sunday, 25th, instant.

The patient gave the following history:

"Left Montevideo on Spanish brigantine Ritta, for Havana, via Costa Rica. On board this vessel was a passenger recovering from chills and fever, contracted in Rio de Janeiro. Length of passage from Montevideo to Havana, fifty-four days.

"Was in Havana five days, during which time he was on shore a day and a-half, but did not pass a night on shore. Came from Havana to New Orleans on steamship Marco Aurelio. Was eight days from Havana to New Orleans, including the detention at the Mississppi Quarantine.

"Arrived in New Orleans on Sunday, eighteenth instant, and was discharged on Tuesday, and went to boarding-house 98 Old Levee street, near corner of Enghien street, where he remained until Wednesday, twenty-first.

"*Wednesday morning*, went on board of steamship "Commander," of London, and was set to work painting the ship. On Thursday, twenty-second, at 8 a. m., was taken with a chill, followed by fever. Returned to boarding-house on Old Levee street, and remained there until Sunday morning, twenty-fifth instant, when he was sent to the Charity Hospital. At the time of admission to Charity Hospital appeared jaundiced and weak."

The following is the record, as detailed by the hospital student and entered upon the Hospital Register:

"9 a. m., Sunday, twenty-fifth instant: Appeared jaundiced and weak; had rather intense fever, nausea and vomiting, diarrhœa, tongue coated with whitish fur, headache, no backache; tenderness and pain on pressure over stomach, spleen and liver; tendency to epistaxis; small amount of blood vomited—may have been from epistaxis; general appearance of vomit was bilious. Ten grains each of calomel and soda given; also one ounce of liquor cinchonidiæ. Half at 11 a. m., remainder at 8 p. m.

June 26, 5:30 a. m.: Patient ejected a considerable amount of black vomit; temperature 100° F. in axilla; pulse frequent and weak; 12 m. tincture of digitalis given.

8:15 a. m.: Temperature in axilla 103.2°; pulse 108 and weak; patient rational, but deaf from effect of abscess of ear, which occurred some weeks ago.

Passed no urine since 9 o'clock last night; at 8 a. m., June 26, catheter was introduced, and about four ounces of urine drawn, which contained an immense amount of albumen, and a considerable quantity of urates; tongue very red, with dry, brownish fur in center; gums congested; epistaxis, palpebral conjunctiva distinctly injected; sclerotic yellow; photophobia; patient burning, with a dry skin of a yellowish hue over trunk.

Great tenderness over region of epigastrum, over spleen and liver, but no enlargement of these organs; black vomit continues.

Temperature at 9:40 a. m. 102.5°, pulse 105.

The preceding notes were recorded by Mr. H. B. Williams, resident student, Charity Hospital.

Dr. C. Faget, Sanitary Inspector of the Second District, and visiting physician of the Charity Hospital, also furnished the following statement to the President of the Board of Health.

NEW ORLEANS, June 26, 1882.

Information received from patient Henry Forbes, sick in Charity Hospital, ward 27. Henry Forbes arrived from Havana on board steam-bark Marco-Aurelio on Sunday, June 18, now lying at Algiers. He was taken sick June 22, on board steamer Commander, which has now departed for Liverpool. Seen today in Charity Hospital, ward 27, throwing up black vomit (coffee ground), red and yellow suffusion of eyes and skin, pain in epigastric region, pulse rapid and weak, slight delirium (prognosis *unfavorable*).

Upon careful examination of Henry Forbes at 10:30 o'clock a. m., I found the patient with a temperature of 102.5°; full but soft pulse, 100 per minute; jaundice; capillary congestion of surface and conjunctiva; ejection of black vomit at short intervals; urine limpid contained albumen and casts. The urine and black vomit were examined imme-

diately at my office. The black vomit contained masses of hæmatin, altered blood, corpuscles, cells of the mucous membranes of the stomach and mucous corpuscles. The casts of the tubuli uniferi in the urine were opaque and filled with granular matter.

In reply to a dispatch asking full particulars as to the sanitary condition of the steamship Marco-Aurelio, the Assistant Physician at Mississippi Quarantine Station replied as follows:

MISSISSIPPI QUARANTINE STATION,
JUNE 26, 1882.

To Dr. Herrick:

The new iron steamship Marco-Aurelio was in fine sanitary condition. Three days from Havana and three days here, total six. All well when she left here, June 17; thoroughly fumigated and disinfected here. She is a cattle boat, and thoroughly ventilated, C. P. WILKINSON.

I next visited the locality from whence the seaman, John Forbes, had been removed to the Charity Hospital.

Mrs. Viana, residing at No. 98 Old Levee street, stated that Henry Forbes came to her house on Monday, the nineteenth. On Wednesday, the twenty-first, he took his clothing and went on board the "Commander," and commenced painting the ship. Slept aboard the "Commander" Wednesday night.

Was seized with a chill Thursday morning, and returned to her house. The man appeared to be in good health on Monday and Tuesday.

When he returned on Thursday his eyes were bloodshot, and he complained of a severe headache. On Friday had fever; was very restless, and drank much water, and vomited at intervals. Finding the man ill, and having no means with which to employ a physician, he was sent to the Charity Hospital on Sunday morning.

Mrs. Viana is forty-eight years of age, native of Germany; has resided in New Orleans thirty-six years; has one child, thirteen years of age. Her premises are clean. She stated that the room in which Henry Forbes had lain sick had been thoroughly cleansed and left open, and I found the door and window open and the floor clean.

The adjoining premises, corner Old Levee and Enghien streets, are occupied by Madam De Bly, who has lived in New Orleans twenty-eight years, and has had yellow fever; daughter twenty-one years of age, native of New Orleans; has two children, one of them an infant at the breast. The front portion of her house is occupied by Mrs. Mary Jalet, age thirty, who keeps a grocery. This woman was suffering with neuralgia of the right side of the face, to which she has been subject.

In the other portion of the back premises resided a man and his wife and three healthy children. In a small room in the rear of that occupied by Henry Forbes resided an old man.

It is evident, therefore, that fifteen souls occupied the front, rear and side premises, which surrounded a small yard or court. Inspection of the houses in the immediate vicinity failed to reveal any cases of sickness.

The following instructions were issued to Dr. Mioton, in person, by the President of the Board of Health.

Dr. E. J. Mioton, Sanitary Inspector, Third District:

Sir—You will proceed immediately to inspect, disinfect and fumigate the house No. 98, corner of Old Levee and Enghien streets, occupied by Mrs. Viana, from where Henry Forbes, seaman from steamer Marco Aurelio, was removed to the Charity Hospital on the twenty-sixth. Thoroughly fumigate the rooms and all clothing with sulphurous acid gas, and disinfect the privies and drains with copperas and carbolic acid. All unpainted wood-work should be whitewashed.

Proceed in this manner until the entire block and the block on the other side of Enghien street, have been thoroughly cleansed and disinfected; then continue in same manner for the blocks in the rear and on either side of the row mentioned.

Hold the entire neighborhood under close surveillance.

Detail Officer Evans for this special duty.

Your sanitary office has been amply supplied with disinfectants, by the Board of Health, for all present emergencies.

The Auxiliary Sanitary Association will furnish two carts and four men for the distribution of the disinfectants of the Board of Health, as you will observe from the enclosed communication of the Sanitary Director.

Have a careful sanitary inspection made of the immediate vicinity, and report the results to the Board of Health.

I shall continue to inspect the locality in person. The Board of Health demands that your action should be prompt and vigorous.

Detail Officer Nowell to the disinfection and fumigation of the steamship "Marco Aurelio," now lying directly across from the United States Mint, near the Third District ferry-landing. Furnish her with all necessary disinfectants and apparatus.

JOSEPH JONES, M. D.,
President Board of Health, State of Louisiana.

STEAMSHIP MARCO AURELIO.

I visited the steamship Marco Aurelio, lying about two blocks above the Third District ferry-landing; thoroughly inspected the ship, and mustered and examined her officers and crew.

The steamship Marco Aurelio was built at Greenock, Scotland, for the cattle trade. Her first trip was on August 21, 1881, to Kingston Jamaica; and since that time she has been running between Havana (Cuba), and Truxillo (Spanish Honduras), engaged in the cattle trade.

Laid at Truxillo at anchor from May 16 to June 6; reached Havana on the ninth of June; laid at anchor half a mile from shore, about abreast of Casa Blanca. The only time that she communicated with the shore was when her cargo of cattle was landed, then moved out in harbor half a mile from shore. Took in some coal from a barge alongside of her.

Took no cargo, no ballast at Havana; in fact, her ballast is simply water ballast.

Remained two days at the port of Havana.

Had twenty-eight men when she arrived; twelve men left, and four new men were shipped, including Henry Forbes. These men came on board on the tenth and eleventh of June. Henry Forbes, who came on board on the tenth, was used as an assistant to the cook. The names of the men shipped at Havana were, Thomas Martin, Lars Pedersen and Peter Pedersen. These men were discharged after their arrival in New Orleans, and are now in the city.

CONDITION OF CREW.

Careful inspection of each of the crew, the mate, engineer, the firemen and sailors, revealed them in perfect health. Appended is a detailed list.

The following detailed statement was drawn up on the deck of the steam vessel; the facts being elicited by direct inquiries and personal examination of the officers and crew:

Steamship "Marco Aurelio" (English), Thos. Morgan, Captain, was built at Greenock in 1880, and has been in the cattle trade between Truxillo (Spanish Honduras) and Havana since that time.

From May 16 to June 6, 1882, she was lying at Truxillo, when she left for Havana with a cargo of cattle, arriving there June 9. On June 11, after discharging cargo, she left Havana in ballast, and arrived at the Mississippi Quarantine Station at 11 o'clock p. m., June 14. Here she was detained three days (the time prescribed by the proclamation of the Governor), leaving the station at 9:39 p. m., June 17, and arrived at Algiers at 9:30 a. m., June 18.

From Truxillo to Havana she carried altogether twenty-eight men; twelve of these left there and four new hands were engaged, leaving her only twenty men, with which number she arrived at New Orleans. Since her arrival here three of these men have already left the port on other vessels, eight are still working in the ship, and four (among which is the man "Forbes") are on shore. Three of these board at a house on St. Peter, between Chartres and Royal streets, kept by Mr. John Ward. The following gives their names and history:

Lars Pedersen, age thirty-two years and six months, native of Norway, has sailed in hot climates for the past twelve years; has had what he considers yellow fever on the coast of Africa; was ashore in Havana on and off for about eight or nine days.

Peter Pedersen, age thirty-five years, native of Denmark, has sailed between the Western Coast of South America and Australia. Came last from Montevideo to Havana, where he boarded for eight or nine days in a house near the Gasworks; has never had yellow fever.

Thomas Martin, age thirty-four years, native of Liverpool, has been sailing between New Orleans and Liverpool for the last eighteen years; has never had yellow fever.

The following is a list of the men remaining on board ship:

Thos. Morgan, captain; Wm. A. Gaw, first mate; Jno. Ballawitch, second mate; A. L. Shaw, chief engineer; Theod. Clark, steward; Stephen Valero, watchman; A. Lazarowich, seaman; B. Judewich, seaman; J. Beriat, seaman; Manuel Peralto, fireman; Benito Dusse, fireman; Seraphina Espanio, fireman; Douglas Thompson, carpenter.

All of these men are thoroughly acclimated, except perhaps the three seamen (Austrians), and these have had what they call "Tampico" fever.

Henry Forbes, the man now sick at the Charity Hospital, is a young man about twenty years of age, and a native of England. Two months ago he shipped as seaman on the Spanish brigantine "Rita," bound from Montevideo to Havana, stopping on her way at Porto Rico. At Havana Forbes left the "Rita" and boarded ashore near the Gasworks for eight or nine days, when he shipped on the steamship Marco Aurelio. After arriving at New Orleans and being paid off, he went to board at No. 98 Peters street, Third District, June 19. Made arrangements to work his passage to Liverpool on the steamer Commander, and was engaged on this ship, painting, until Thursday, June 22, when he

came to his boarding house sick with fever and a severe headache. Not having much money, no physician was called in to attend to the man, but, growing worse, he was sent to the Charity Hospital on Sunday, June 25.

CONDITION OF VESSEL.

The vessel is one of the cleanest that I have ever inspected. The forecastle has been thoroughly painted, and she is being refitted and painted throughout.

I placed Officer Nowell in charge of the vessel, and directed him to thoroughly fumigate and disinfect all parts.

The three men were next visited on St. Peter near Chartres street, and carefully examined with the following result:

Lars Pedersen, native of Norway, has been sailing in tropical seas for many years, and has had yellow fever on the coast of Africa.

Peter Pedersen, native of Denmark, has been in New Orleans and the West Indies for the last fourteen years, but has not had yellow fever.

Thomas Martin, Englishman, has been in New Orleans on and off during the last twenty years.

The following communication has been addressed to Dr. C. Faget, Sanitary Inspector, Second District:

C. Faget, M. D., Sanitary Inspector, Second District:

Sir—Hold the men, Lars Pedersen, Peter Pedersen and Thomas Martin, now in a boarding house on St. Peter, between Chartres and Royal streets, under close observation.

Fumigate and disinfect their clothing and the premises which they occupy.

Inspect and disinfect the entire block upon which they are now located.

Act immediately and promptly.

The Board of Health has furnished your district with ample supplies of disinfectants.

Respectfully,

(Signed) JOSEPH JONES, M. D.,
President Board of Health.

After the President had stated these facts he directed the attention of the Board of Health to the fact that both the house in which Forbes had died and the Marco Aurelio had been taken possession of by the officer of the Board of Health, Dr. Eugene Mioton, Sanitary Inspector of the Third District, who had thoroughly fumigated the house and premises No. 98 Old Levee street, disinfected the rooms, yard, drains and privy, and burnt up the clothing, bed and bedding of Forbes.

The Marco Aurelio was under his direction also thoroughly disinfected and fumigated.

The work of disinfecting every yard and house in the square in which Forbes lay sick, as well as those in surrounding squares, was progressing under the direction of the Sanitary Inspector of the Third District.

Upon the conclusion of the report of President Jones, Hon. Edward Booth offered a resolution that the Board approve the action taken by the President, and that they rely confidently upon the experience and skill of the medical staff of the Board to give the official force to the necessary repressive and preventive measures which a first case will naturally suggest and justify.

This was unanimously adopted, and the following dispatch was read:

BATON ROUGE, June 27, 1882.

President Board of Health:

Assemble the Board of Health and recommend the extension of quarantine to not less than twenty days.

S. D. McENERY.

The President stated that he had telegraphed His Excellency, Governor S. D. McEnery, all the essential facts of the case of Forbes, and the preceding telegram was in response to his telegram.

The Governor's telegram coming up for action, Dr. Pratt said he was in favor of increasing the detention at quarantine of vessels arriving from infected ports, from ten to twenty days, as the Governor recommended, believing the same to be a wise precaution, and necessary under the circumstances.

Dr. Formento said that, with all due respect to the Governor, he would ask the Board to forget the source of the telegram, and act upon the question to the best of their judgment as a body of intelligent sanitarians. In his opinion, time was of less consequence in preventing the appearance of yellow fever than the mode of treatment at Quarantine.

Dr. Kells was in favor of an amendment that the Quarantine physician be instructed to exercise more vigilance.

Dr. Pratt said the period of incubation of yellow fever was unknown. In Forbes' case, he was taken sick twelve days after he went on board the Marco Aurelio.

Dr. Formento desired to be informed of the meaning of the words "an infected ship."

Dr. Kells moved that further consideration of the question to extend the quarantine to twenty days be postponed until the regular meeting to-morrow evening.

Mr. Bosworth favored immediate action. The public mind was agitated over this one case of yellow fever, and he thought it but right that the Board should allay this excitement by increasing the time, as the Governor recommended.

The yeas and nays being called on postponement, Drs. Formento, Von Gohren and Kells, and Messrs. Marks and Booth voted in the affirmative, and Dr. Pratt and Mr. Bosworth in the negative.

Hon. Edw. Booth, after citing the case of the Excelsior, offered the following resolution:

Resolved, That the President of the Board take immediate steps to return the steamship Marco Aurelio to Quarantine, there to await the further orders of the Board.

Dr. Jones considered it unnecessary to send the vessel back to quarantine, as she had been thoroughly disinfected, under his orders to Dr. Mioton, and is isolated.

Dr. Formento said he should oppose the passage of the resolution for these reasons, and also if there was any danger the mischief was done already, as she had been at Algiers nine days and had been visited by various persons who cannot now be found.

Mr. Booth believed in the Board doing what it could, if it could not do what it would.

Dr. Jones said the cases of the Excelsior and Marco Aurelio were different. On the former the men sickened on board, and she had a cargo, while no sickness has occurred on the latter, the Marco Aurelio having no cargo on board and coming in with water ballast.

Dr. Formento said he did not consider the Marco Aurelio an infected vessel.

Dr. Pratt considered it possible that she might be so.

Mr. Booth believed in the Board taking action as if she was, and sending her back to quarantine.

Dr. Formento said the man evidently contracted the fever at Havana, and not on board the vessel.

Dr. Pratt said, under the circumstances, it must not be presumed that the Marco Aurelio was free from infection simply because there was no sickness on board.

Mr. Booth said that the ship that brings a case of yellow fever from an infected port must be held responsible as a sanitary criminal, and must be treated accordingly.

Dr. Formento said he was unable to see any criminality, sanitary or otherwise, in the case of the Marco Aurelio, she having broken no quarantine rule or regulation.

Mr. Marks referred to the vessel which sent a cargo of sugar in lighters to Brooklyn, and one of the crew being taken sick with yellow fever in that city, and the vessel and man were sent back to quarantine.

The yeas and nays being called for on the passage of the resolution, Drs. Pratt and Kells and Messrs. Marks and Booth voted in the affirmative, and Drs. Formento, Von Gohren and Mr. Bosworth in the negative.

Dr. Jones asked for the views of the board in relation to returning the unacclimated members of the crew to quarantine with the vessel.

Dr. Pratt was in favor of sending the men back with the vessel.

Mr. Booth suggested that they be kept under surveillance by the sanitary inspectors.

The Board of Health then adjourned.

Immediately after the adjournment of the Board of Health, the following orders were issued:

OFFICE BOARD OF HEALTH, STATE OF LOUISIANA,
New Orleans, June 27, 1882.

Captain Thomas Morgan, Master Steamship Marco Aurelio, New Orleans, La.:

Sir—Your attention is directed to the following resolution of the Board of Health of the State of Louisiana:

[Extract from Minutes of Board of Health, special meeting held June 27, 1882].

"By Mr. Booth—

"*Resolved*, That the President of the Board take immediate steps to return the steamship Marco Aurelio to quarantine, there to await the further orders of the board."

This resolution was offered in consequence of the death by yellow fever this morning in the Charity Hospital of New Orleans, of Henry Forbes, who was shipped on board the Marco Aurelio at Havana, and brought by said vessel to this port on the eighteenth of June.

You will also cause the return of all seamen and officers who were present on board the Marco Aurelio at the time of her leaving Havana, on the eleventh of June, 1882, including Lars Pedersen, Peter Pedersen and Thomas Martin, now residing at No. 40 St. Peter street, at a house now kept by Mr. John Ward, to the Mississippi Quarantine Station.

Therefore, in behalf of the public safety, and in obedience to the acts of the General Assembly, establishing and regulating quarantine for the protection of the State against the importation of fever and pestilence, you are hereby commanded to return your vessel, the Marco Aurelio, to the Mississippi Quarantine Station or to any point without the waters of Louisiana.

(Signed) JOSEPH JONES, M. D.,
President Board of Health, State of Louisiana.

OFFICE BOARD OF HEALTH, STATE OF LOUISIANA,
New Orleans, June 27, 1882.

To the Civil Sheriff of the parish of Orleans, Greeting:

Whereas, due and sufficient proof has been adduced before the Board of Health of the State of Louisiana, that the steamship Marco Aurelio did, on or about the eighteenth day of June, 1882, bring a seaman named Henry Forbes to the port of New Orleans, and that the said Henry Forbes sickened with yellow fever June 22, and died on June 27 of yellow fever, in the Charity Hospital of New Orleans: At the special meeting of the Board of Health, held this day, June 27, 1882, it was

Resolved, That the President of the Board take immediate steps to return the steamship Marco Aurelio to quarantine, there to await the further orders of this board.

Now, therefore, this is to command you to remove, forthwith, said steamship, with her officers and crew, including Lars Pedersen, Peter Pedersen and Thomas Martin, now boarding at No. 40 St. Peter street, at the house kept by Mr. John Ward, to the Mississippi Quarantine Station, subject to the further orders of the Board of Health, in accordance with the laws of the State of Louisiana, instituted for the protection of the State against the introduction of foreign pestilence.

Given under my hand and the official seal of the Board of Health of the State of Louisiana, in the city of New Orleans, this twenty-seventh day of June, 1882.

(Signed) JOSEPH JONES, M. D.,
President Board of Health, State of Louisiana.

CORRESPONDENCE OF BRITISH CONSUL.

BRITISH CONSULATE,
NEW ORLEANS, June 28, 1882.

Dr. Joseph Jones, President Board of Health, New Orleans, La.:

Sir—The captain of the steamship "Marco Aurelio" has laid before me your letter to him, dated yesterday, in which he is commanded to return his ship to the Quarantine Station, "in obedience to the acts of the Senate and House of Representatives, regulating quarantine for the protection of the State."

I respectfully beg to be referred to the section under which this command is made.

I have the honor to be, sir, your obedient servant,

(Signed) A. DE G. DE FONBLANQUE.

BRITISH CONSULATE,
NEW ORLEANS, June 28, 1882.

Sir—The master of the British steamship "Marco Aurelio" has laid before me your letter to him of the twenty-seventh instant, in which you required him to cause the return of all seamen and officers who were present on board of her on the eleventh of June, 1882, including Lars Pederson. I have the honor to inform you that the entire crew of this steamship were paid off and discharged before me on the twentieth instant, and that consequently the master has no authority over them.

With regard to returning the ship to Quarantine Station. I await your reply to the question put in my first letter of this day, begging you will have the goodness to refer me to the Revised Statute of the State for any legislation prior to March 14, 1870,

I have the honor to be, sir, your obedient servant,
A. DE G. DE FONBLANQUE.

OFFICE BOARD OF HEALTH, STATE OF LOUISIANA,
NEW ORLEANS, June 28, 1882.

Hon. A. de G. de Fonblanque, Consul of Great Britain:

Sir—I have the honor to acknowledge your communication of this instant, and in accordance with the request of the British Consul, enclose extracts from the Organic Acts of the Legislature of Louisiana, relating to the case of the steamship. Respectfully your obedient servant,

(Signed) JOSEPH JONES, M. D.,
President Board of Health, State of Louisiana.

[Extracts from the Acts of the General Assembly establishing quarantine for the protection of the State.]

Section 6 of "An act to establish a quarantine," etc., approved March 15, 1855, reads as follows:

* * * * * The Board of Health shall have power to issue warrants to any constable, police officer or sheriff in the State, to apprehend and remove such persons as cannot be otherwise subjected to the provisions of this act, or who shall have violated the same, and whenever it shall be necessary so to do, to issue their warrants to the sheriff of the city or parish where any vessel may be, having violated the provisions of this act, commanding him to remove said vessel to the quarantine grounds, and arrest the officers thereof, all which warrants shall be executed by the officer to whom the same shall be directed, who shall possess the like powers in the execution thereof, and be entitled to the same compensation as if the same had been duly issued out of any court in the State. * * * * *

Revised Statutes of Louisiana for 1870:

SEC. 3039. * * * * The Board of Health shall have power to issue their warrants to the sheriff of New Orleans or of any parish where any vessel may be to have such vessel, if they deem it necessary for the protection of health, removed to the Quarantine Station. * * * The Board of Health shall have power to extend the quarantine, should it be deemed necessary by them.

Section 6 of an Act approved March 16, 1870, reads:

The Board of Health shall have power to issue their warrant to any constable, police officer or sheriff in the State, to apprehend and remove such person or persons, as cannot otherwise be subjected to the provisions of this act, or who shall have violated the same, and whenever it shall be necessary so to do, to issue their warrants to the sheriff of the city or parish where any vessel may be having violated the provisions of this act, commanding him to remove said vessel to the quarantine ground, and arrest the officer thereof, all which warrant shall be executed by the officer to whom the same shall be directed, who shall possess like power in the execution thereof, and be entitled to the same compensation as if the same had been duly issued out of any court in the State.

BRITISH CONSULATE,
NEW ORLEANS, June 29, 1882.

Joseph Jones, M. D., President Board of Health, New Orleans, La.:

Sir—I have the honor to acknowledge the receipt of your letter of the twenty-eighth instant and its inclosure.

Section 3039 of the Revised Statutes appears to be conclusive as regards the ship.

I have the honor to be, sir, your obedient servant,

A. DE G. DE FONBLANQUE.

EXECUTIVE DEPARTMENT, STATE OF LOUISIANA,
RATON ROUGE, June 17, 1882.

Dr. Joseph Jones, President Louisiana Board of Health:

Dear Sir—In view of existing danger, I respectfully recommend that the period of detention at Quarantine be extended not less than twenty days, and that the full powers of the Board of Health be employed in securing the safety of this and and neighboring States. Very truly, yours,

S. D. McENERY, Governor.

LETTER OF PRESIDENT OF BOARD OF HEALTH TO GOVERNOR McENERY, INCLOSING ORDER RELATING TO THE RETURN OF THE "MARCO AURELIO" TO MISSISSIPPI QUARANTINE STATION.

OFFICE BOARD OF HEALTH, STATE OF LOUISIANA,
New Orleans, June 29, 1882.

His Excellency, S. D. McEnery, Governor State of Louisiana, Baton Rouge, La.:

Dear Sir—I have the honor to inclose for the information of your Excellency, the essential facts relating to the case of yellow fever which terminated fatally, in the Charity Hospital, on the twenty-seventh instant; also, the orders issued to the captain and Civil Sheriff for the removal of said vessel to the Mississippi Quarantine Station.

This case furnishes a striking illustration of the neccessity of legislative action, fixing a definite period of quarantine detention of not less than ten (10) days, as in the original act of 1855.

This subject was urged by the President upon the General Assembly of Louisiana, in the annual report of the Board of Health for 1881 (see introduction and pp. 109, 120, 292), but up to the present moment, no action has been taken by the General Assembly with reference to this most important matter.

Every precaution has been taken, and the necessary sanitary measures will be continued, and upon a calm review of the situation, I hope for a complete suppression of all ill effects from this imported case.

With great respect and high esteem, I have the honor to remain,

Your obedient servant,

(Signed) JOSEPH JONES, M. D.,
President Board of Health, State of Louisiana.

MISSISSIPPI RIVER QUARANTINE,
June 26, 1882.

Dr. S. S. Herrick, Secretary Board of Health, New Orleans:

Dear Sir—Enclosed please find roll for week ending June 24, 1882, and checks 433–438 inclusive of each. The new iron steamship Marco Aurelio has been engaged during the past winter in carrying cattle from Truxillo to Havana. She arrived at this station on June 14, at 10 o'clock p. m., with all well on board, and having had no sickness on board at all. Was fumigated and disinfected on the fifteenth. Every one being well on board, on June 17, at 10 o'clock p. m., she was released from here. The vessel is now lying at Algiers, and can be inspected there.

Your obedient servant,

C. P. WILKINSON,
Assistant Resident Physician.

QUARANTINE STATION, June 29, 1882.

Dr. Joseph Jones, President Board of Health:

The Marco Aurelio, with a crew of twelve, and four deputy sheriffs on board, arrived last evening. Have detained sheriffs. All well.

C. P. WILKINSON, M. D.

MISSISSIPPI RIVER QUARANTINE,
June 29, 1882.

Dr. Joseph Jones, President Board of Health, New Orleans:

Sir—About 7 o'clock p. m. yesterday, the steamship Marco Aurelio arrived here, having on board a crew of twelve men and four deputy sheriffs. The vessel was seized and sent away from New Orleans without giving any opportunity to the officers or crew to secure any provisions or bedding or mosquito bars. The sheriffs having come down on board of the steamer, and none of them having had yellow fever, I have detained them on board and subjected them to the same quarantine as the crew of the vessel.

About the same time of the arrival of the steamship the Norwegian bark Hans Nilsen Hauge arrived at the station with a cargo of sugar from Havana and Cardenas. She lay thirty days in Havana. I respectfully suggest that discharge of cargo for purposes of better purification be ordered for this and similar vessels from Havana.

Your obedient servant,

C. P. WILKINSON,
Assistant Resident Physician.

NEW ORLEANS, July 7, 1882.

To J. F Finney, M. D.:

If satisfied that the Marco Aurelio is no longer a source of danger, and if officers and crew are in good health, release her.

JOSEPH JONES, M. D.,
President Board of Health.

The preceding telegram was forwarded in accordance with the formal resolution of the Board of Health. In accordance with the petition of Thomas Martin, P. Pedersen and L. Pedersen, the Board of Health appropriated an amount satisfactory to these men, sufficient to reimburse them for their extra expense while upon the Marco Aurelio. Mrs. Viana was also reimbursed for articles destroyed by burning.

CASE OF LOUIS DESCHLER, OF NO. 1010 TCHOUPITOULAS STREET, DIED IN CHARITY HOSPITAL OF NEW ORLEANS, JULY 17, 1882.

CHARITY HOSPITAL, July 17, 1882.

Dr. Joseph Jones, President State Board of Health:

Dear Sir—A case of yellow fever died in ward 24 this evening at 1 o'clock. We will give you the history of the case. The body lies exposed for your examination.

Very respectfully,

A. B. MILES, M. D.

CLINICAL REPORT OF THE CASE OF LOUIS DESCHLER, AS FURNISHED TO THE BOARD OF HEALTH OF THE STATE OF LOUISIANA, BY DR. A. B. MILES, SURGEON IN CHARGE OF THE CHARITY HOSPITAL OF NEW ORLEANS.

Louis Deschler, aged 31 years, native of Germany, resident in New Orleans twelve years, entered the hospital, ward 24, at 9 a. m. Sunday, the sixteenth of July.

Patient's account of his early illness are conflicting. At one time he stated that he had been sick one week, with accessions of fever every second day; later he informed the student of the ward that he had fever every day. The temperature was not registered upon admission, but to the touch, seemed normal.

Condition at 7 p. m., July 16, noted by Dr. Jamison: Patient jaundiced; tongue pointed, with red edges; gums congested; epigastric tenderness; urinary bladder empty. Patient stated that no urine had passed since Friday, the fourteenth of July. Mind unsteady, patient responding incoherently. Temperature, 104° F.; Pulse, 120.

Monday, 17, 9 a. m.: Jaundice increasing; epigastrum more painful upon pressure. Patient passed urine during the night (two ounces), which, upon examination, contained albumen (thirty-three per cent), hyaline casts and large quantity of bile. When left alone, patient wandering and restless; when aroused answering correctly; Temperature, 105° F.; pulse, 120.

During the forenoon on Monday, the symptoms increased in severity. The temperature ranged between 105° and 106° F. Pulse rapid, excited by convulsive muscular movements; marked tenderness over the epigastrum; nausea, but no vomiting; a red, glazed tongue; gums congested, with some hemorrhage; conjunctivæ jaundiced and injected; and, withal, the facies, which we regard as almost characteristic. Before death, patient exhibited the nervous phenomena of uraemic poisoning, and died at 12:30 p. m, July 17, with a temperature of 109° F.

Diagnosis, yellow fever, indorsed by physicians in attendance, Drs. Veazie, Jamison and Miles.

OFFICE BOARD OF HEALTH, STATE OF LOUISIANA,
New Orleans, June 17, 1882.

Dr, Kelly, President Galveston Board of Health, also Presidents of Boards of Health of Tennessee, Mississippi, Alabama and Florida, and to the Associated Press:

This day (July 17), about 2 p. m., I was requested by Dr. Miles to examine a corpse lynig in the dead-house of the Charity Hospital. *Exterior of body*, golden colored; no marked mottlings of dependent portions. Unusual golden color of integuments; fibrous tissues and coats of vessels and serous membranes yellow from the diffusion of bile. Heart normal in size, firm in texture; under microscope transversed striæ of muscular tissue distinct; no fatty degeneration of heart. Textures of heart and pericardium discolored by bile. Liver congested and of a browisnh red color, with portions of a lighter shade; under microscope, liver cells distinct, with no marked accumulation of oil globules, as in the liver of specific yellow fever. Mucous membrane of stomach highly congested; contained two fluid ounces of a reddish-colored liquid, congealable by heat and nitric acid, and abounding with epithelial cells of mucous corpuscles, with comparatively few blood corpuscles. Liquid of stomach contained bile.

The gall bladder contained about one and a half fluid ounces of a reddish albumenoid liquid, congealable by heat and nitric acid, containing numerous epithelial cells.

Kidneys large and congested. Urinary bladder contained about one fluid ounce of golden-colored urine, containing a moderate quantity of albumen and golden-colored casts. Many of the casts were transparent, with little or no granular matter, indicating that Bright's disease may have existed before the supervention of jaundice and fever.

History of Case.—From the Hospital Register, as well as from a searching personal investigation, I gather the following facts:

Louis Deschler, age 31; native of Germany; resident of New Orleans twelve years; brewer by occupation; is said to have had yellow fever in 1878; has suffered with a large ulcer on left leg, for which he was treated in the surgical ward of the Charity Hospital from October, 1881, to twenty-ninth December, 1881. For some years worked in Canal Brewery, near Old Basin; on twenty-ninth December, 1881, entered brewery 540 Tchoupitoulas and remained there until thirty-first March; twentieth June, 1882, entered brewery 1010 Tchoupitoulas street, near elevator. This house is the only one on the square, and is entirely isolated.

Habits like those of many brewers, intemperate. On Tuesday night, eleventh July, whilst drunk, lay during the night in open air; complained next day of sore throat, and wrapped ice around his neck. Dr. C. R. Schuppert, Jr., saw him on twelfth, and states that he was jaundiced and suffering from the too free use of alchoholic stimulants; prescribed a dose of Glauba salts; thirteenth, jaundice well marked, no fever; head cool; patient complained of chilly feelings; prescribed podophilin as a purgative. According to statements of landlady, on fourteenth (Friday) and fifteenth (Saturday) patient was alternately up and obout and lying down, and drank two bottles of wine.

Admitted to Charity Hospital morning of sixteenth instant, and stated that he had suffered with access of fever every second day. Fever increased at 7 p. m.; temperature of axilla, 104° F; seventeenth, at 9 a. m., temperature 105°; 12 m., 107°; 1 o'clock p. m., temperature of axilla 109.5°. The patient died in less than twenty minutes after this rapid rise of temperature.

We have in this case a history embracing intemperance, intense jaundice, free purgation, no vomiting, albumenania, congestion of internal organs, rapid rise of temperature, and death.

(Signed) JOSEPH JONES, M. D.,
President Board of Health, State of Louisiana.

COPY OF LETTER FROM DR. CHAS. R. SCHUPPERT, WHO ATTENDED TO L. DESCHLER, ON TCHOUPITOULAS STREET.

NEW ORLEANS, July 18, 1882, 1 P. M.

To Edw. Booth:

The man who died at the Charity Hospital did not show any symptoms whatever of yellow fever.

My diagnosis is gastro-duodenites, brought on by over-indulgence in spirituous liquors and exposure. I will gladly give any further information required.

It is as ridiculous as unjust to even surmise yellow fever in this case.

With great respect I am yours,

(Signed) CHAS. R. SCHUPPERT.

In addition to this Dr. Schuppert was visited by a *Picayune* reporter yesterday. He stated that the patient, Deschler, was represented to be sick from lying out at night when intoxicated. On Thursday last, when Dr. Schuppert examined him, he says Deschler had no sign of fever whatever. He had a cold, clammy sweat upon him at that time, and his eyes were injected with bile. He complained of a pain in the stomach. For many days previous to this attack he was complaining of indigestion, with a slight pain in the abdomen.

Dr. Schuppert states that he prescribed for jaundice, caused by an inflammation of the stomach and duodenum, technically called duodenites.

Dr. Schuppert says he was informed that on the following evening, in addition to drinking spirituous liquors and beer, Deschler drank two bottles of red wine. The next morning he was conveyed to the Charity Hospital.

The men present at the autopsy were Dr Joseph Jones, President of the State Board of Health; Dr. S. S. Herrick, Secretary of the Board; Dr. S. E Chaillé, resident member of the National Board of Health; Dr. Thomas Layton, Vice President of the Board of Administrators of the Charity Hospital; Drs. A. B. Miles and D. Jamison, respectively, Chief and Assistant House Surgeons of the hospital.

OFFICE BOARD OF HEALTH, STATE OF LOUISIANA,
New Orleans, July 18, 1882.

Dr. Mandeville, Sanitary Inspector Fourth District:

Sir—In consequence of the occurrence of a severe case of disease, attended with jaundice and high fever, at No. 1010 Tchoupitoulas street, and the fatal termination in the Charity Hospital, on the seventeenth instant, you will proceed at once to execute the following:

(a) Proceed at once with your sanitary officers to 1010 Tchoupitoulas street, and make a thorough inspection.

(b) Proceed at once to disinfect and fumigate the premises.

(c) Keep the brewery, at No. 1010, near the grain elevator, under careful observation, and make inquiry as to prevailing diseases.

(d) Extend inspection and disinfection to the squares around 1010 Tchoupitoulas street.

(e) Act at once with energy, and report result to President of Board of Health.

Respectfully,

(Signed) JOSEPH JONES, M. D.,
President Board of Health, State of Louisiana.

NEW ORLEANS, LA., July 25, 1882.

Joseph Jones, M. D., President State Board of Health:

Sir—I would respectfully state I did not understand that a report was desired to be made on the twentieth instant, as I was anxious to obtain all facts relating to the case of Louis Deschler before doing so.

On the eighteenth instant, in compliance with written instructions from you, I proceeded with my officers to the brewery, No. 1010 Tchoupitoulas street, and there fumigated thoroughly the room and bedding that had been occupied by Louis Deschler, after which the vault was disinfected with a solution of carbolic acid and feuic sulphate. The drains and gutters connected with the brewery were also cleaned and disinfected with the same material. Chloride of lime was sprinkled around the yard. The batture of the river front was also treated in a like manner.

All the vaults, drains and gutters from Washington to Toledano, and from the river front to Annunciation street, have been thoroughly cleansed and disinfected with the copperas and carbolic acid solution, all of which I superintended personally.

As regards the loaning to the Sanitary Auxiliary Association of copperas, I would simply state that during my absence from the city, Dr. Bayley loaned them thirteen barrels of copperas, which has since been returned, and which *we* are now using.

A requisition was made from this district on the Board of Health for one barrel of carbolic acid. We received only twenty gallons. The Sanitary Auxiliary Association furnished the lime and one-half barrel of acid, also one cart and four men, the Administrator of Improvements giving us the use of one man and a wagon.

We are still disinfecting block by block, and by Saturday will have reached Laurel street. The health of the inhabitants in this locality is good.

We have consumed twelve barrels of copperas, and have eight on hand. No copperas has ever been distributed gratuitously amongst the citizens in this district from this office, except when they called in person for it.

The Sanitary Auxiliary Association have, however, distributed packages through a portion of this district.

All of the disinfection and fumigation which has been done in this district has been under the direct control and supervision of myself and officers. It is but just to ourselves that *we* should not allow the Sanitary Auxiliary Association to take all the credit upon themselves in this matter, for we have done the work, and can do as well without them as with them.

Very respectfully,
W. R. MANDEVILLE, M. D.,
Sanitary Inspector Fourth District.

NEW ORLEANS, July 27, 1882.

Joseph Jones, M. D., President Board of Health:

Sir—In compliance with your verbal request of the twenty-sixth instant, I have the honor to make the following report regarding the case of Louis Deschler, No. 1010 Tchoupitoulas street:

Mr. Jacob Web, No. 1005 Tchoupitoulas street, testifies as follows: Knows Louis Deschler one year, says that he complained about eight or ten days before going to the hospital, thinks he went to the hospital in a street car, habits have been intemperate.

Mr. J. Jung, No. 1013 Tchoupitoulas street, says that he has known Mr. Deschler for three weeks before he went to the hospital, and told him that when he first saw him, that he had jaundice, and also says that his habits were intemperate.

Chas. Horning, barber, No. 1019 Tchoupitoulas street, says that he shaved Deschler several days previous to his sickness, and that he was then yellow; knows positively that for two months he had a yellow appearance, and that he never had any communication with the shipping; says that he went to the hospital in a street car.

Mrs. Bassimer, who lives at the brewery, says that he worked there twenty-seven days, and in that time had no communication with the shipping; thinks that the statement of Dr Schuppert, as she read it in the paper, is the correct one.

Andrew Miller, of the same place, coincides with the above statement in every particular.
These are all the facts that can be obtained in regard to this case, and can be sworn to if required.

Very respectfully,
JOHN LOGAN,
Sanitary Officer Fourth District.

NEW ORLEANS, La., September 13, 1882.

Joseph Jones, M. D., President Board of Health:

Sir—I enclose a condensed report of the case of Louis Deschler for your consideration, supposed to have died of yellow fever, in the Charity Hospital, on the seventeenth day of July, 1882. The testimony of the neighbors regarding his intemperate habits are so unanimous that I have not embodied their statements in this report. They can, however, be furnished *in extenso* if necessary.

Very respectfully,
W. R. MANDEVILLE, M. D.,
Sanitary Inspector, Fourth District.

Louis Deschler, age 31 years, a native of Alsace, was admitted into the Charity Hospital, July 16, and died July 17, 1882. His previous history, as far as can be obtained, is as follows: Has been a resident of this city for the past twelve years, was always a man of intemperate habits, drank freely of beer, and was often drunk; has always worked in a brewery, and never on the docks or elevator. He was employed at the brewery of Mr. Mouse, No. 1010 Tchoupitoulas street; he worked there twenty-seven days, when he was taken sick; fourteen days previous to his confinement to bed his friends noticed that he had a jaundiced hue, and that he had been indulging freely in all kinds of ardent liquors, and slept in the brewery on sacks, taking but little care of himself, and being constantly exposed to all kinds of weather. Dr. Charles E. Schuppert attended the man three days previous to his admission to the hospital; he prescribed a simple purge, and looked upon the man as having an attack of jaundice.

On July 16 the man was removed to the hospital (in street car) and died the following day. His friends state that, previous to his removal to the hospital, he drank two bottles of claret, and also partook freely of lemonade to quench his thirst.

A post mortem examination was held, the result of which was made public through the daily prints. A section of the liver, spleen and kidneys were furnished me for microscopic examination by the President of the Board of Health, and on careful examination there was nothing found to justify the suspicion of this being a case of yellow fever. I am now mounting stained specimens of *these* organs, and will furnish them for examination to those who desire to see them.

All of which is respectfully submitted.

W. R. MANDEVILLE, M. D.,
Sanitary Inspector, Fourth District.

CASE OF YELLOW FEVER.

JOHANNES STROH, NATIVE OF GERMANY; AGE, TWENTY-TWO YEARS; CIGAR-MAKER; RESIDENT OF NEW ORLEANS TWO YEARS; ATTACKED WITH YELLOW FEVER JULY, 27, 1882, 10. P. M.; DIED AUGUST 17, 1882, 6 P. M. AT No. 25 ENGHIEN STREET, NEW ORLEANS, LA. MEASURES OF DISINFECTION TAKEN BY BOARD OF HEALTH.

About 2 o'clock Tuesday afternoon, August, 1, 1882, Dr. V. C. Frogne reported to the President of the Board of Health, that he had a *suspicious case of fever* at No. 25 Enghien street, Third District.

The President of the Board of Health, accompanied by Dr. Frogne, immediately visited No. 25 Enghien street, and found the patient Johannes Stroh, with the following symptoms:

Surface of face and body moderately jaundiced, of a light yellow color; Coma: eyes and mouth tightly shut; if an effort was made to open the eyelids by force, they were closely and strongly contracted, and considerable force failed to open the mouth; twitcheng of muscles and face. Temperature of axilla 103; pulse 116. Retention of urine. Introduced catheter and drew off about four ounces of high colored deep orange-red turbid urine, which proved to be albumenous, and contained numerous cylindrical yellow granular casts, and detached cells from the tubuli uriniferi.

Upon careful examination, the President of the Board of Health ascertained the following facts concerning the history of this case.

Johannes Stroh, aged twenty-two years, a native of Baden, Germany, came to New Orleans, April 28, 1880, and went immediately to Little Rock, whence he returned to this city in October of the same year. For several months he has worked in the mould department of S. Hernsheim & Bro's. cigar factory. Stroh resided at No. 25 Enghien street, with the family of Jacob Wipf, a shoemaker, which consists of five persons besides Stroh, namely, Wipf, fifty years old, who had yellow fever in this city in 1867; his wife, forty-two years old, German by birth, and a resident of this city since 1865, having passed through the epidemics of 1867 and 1878, but is not known to have had the fever; a daughter, Louise, sixteen years old, a native of New Orleans; a second daughter, Selena, ten years old, born in this city, and a third daughter, Lizzie, eight years old, also a native, and known to have had the fever in 1878. The other two girls have constantly resided in this city, but have not had yellow fever. The entire household is thus shown to have been acclimated, with the exception of Stroh, the lodger.

Mrs. Wipf states that Stroh came home on Thursday night, July 27, apparently well, but was taken sick about ten o'clock, saying he had taken cold. Friday morning, the twenty-eighth, he went to work, but came home at nine o'clock in the morning, with

burning fever, and remained at home during the day. On Friday evening Mrs. Wipf gave him a hot foot-bath and a dose of castor oil. He coughed a great deal, and said his trouble was caused by taking cold. On Sunday, fever continued, and the patient was delirious.

On Sunday morning, July 30, at nine o'clock, Dr. V. C. Frogne, of 77 Enghien street, was sent for. He found a temperature of 106 Fahrenheit, under the patient's tongue, and a pulse of 130. The patient's tongue was dry and coated, gums red and soft, no vomiting, no signs of jaundice, urine scanty. Gave patient 8 grains of calomel, followed by quinine in five grain doses every two hours, until twenty grains had been taken. The same evening the patient's temperature was 105, pulse 110. Sunday night he vomited bilious matter, was restless and delirious.

On Monday morning the patient showed a temperature of 102 and a pulse of 112. He was delirious. Administered quinine in five grain doses every three hours, until twenty grains had been taken. Vomited bilious matter, flecked with brown or coffee ground particles, spit a little blood from gums, urine scant; did not see patient that night. On Tuesday morning the armpit showed heat of 102 with a pulse of 99. Patient vomited bilious matter, flecked with brown specks, and showed outward signs of jaundice, with eyes bloodshot. The attending physician then thought the case was so much like yellow fever that soon after noon he reported the matter to the President of the Board of Health.

At two o'clock, the President of the Board of Health was at the patient's bedside and found his temperature 162 and pulse 116. He was delirious, kept his mouth and eyes tightly closed and exhibited much nervous agitation. By means of a catcheter the bladder was emptied of four ounces of a high-colored, turbid urine, which being tested at the neighboring drugstore of C. F. Seeman, 513 Royal street, exhibited albumen, and showed a specific gravity of 1.020. The surface of the body was jaundiced, gums swollen.

Dr. Jones, at 5 o'clock, notified Dr. Faget, chairman, and Dr. Pratt, members of the Committee on Contagious Diseases, and the resident official of the National Board of Health, of the existence of the case, and requested the committee to examine it. Inspector Kohlhaase was instructed to keep in communication with Dr. Frogne, and report the progress of the disease.

The committee made the examination, and reported the case to be yellow fever. The patient subsequently died during the night.

NEW ORLEANS, August, 1, 1882.

Dr. S. E. Chaillé, Supervising Inspector, National Board of Health:

Sir—A case of yellow fever at No. 25, Enghien street, name; Johannes Stroh; under investigation. Drs. Faget and Pratt notified.

Respectfully, JOSEPH JONES M. D.,
President Board of Health, State of Louisiana.

Mr. Kohlhaase reported that the patient died at 6 o'clock on Tuesday evening, and a post-mortem examination was arranged for Wednesday morning, at 9, o'clock, at which Drs. Jones, Faget and Pratt, of the State Board of Health, Dr. Chaillé, of the National Board, and Dr. Frogne, attending physician, and others, were present.

OUTLINE OF RESULTS OF POST-MORTEM EXAMINATION.

Surface of yellow color, dependent portions of spine, of trunk, neck and extremities mottled. Dura and pia mater of brain congested. Blood-vessels of cerebral substance congested. Lungs normal, mucous membrane of stomach highly congested and of a scarlet and purplish ecchymosed appearance over a considerable portion. Stomach contained about six fluid ounces of black vomit, which, upon careful microscopical examination, was found to contain blood corpuscles, mucous corpuscles, masses of hæmatin, epithelial cells from the mucous membrane of the stomach, bacteria, etc., and spores of fungi. Liver yellow, and in a state of "acute fatty degeneration." Microscopical examination revealed large numbers of fat globules within and around the heptic cells.

Heart of brownish yellow color, and softer than usual, and, upon microscopical examination, numerous oil globules were found, within and around the muscular fibrillæ of the heart. The striæ of the muscular fibres were not as distinct as in the normal heart, or in the heart of malarial fever.

Kidneys congested and ecchymosed. When sections were subjected to microscopical examination, many of the tubuli uriniferi were found filled with detached cells, granular matter and oil globules.

The physicians present were unanimous in regarding the lesions as characteristic, of yellow fever.

Immediately after the post-mortem examination, on Wednesday morning, August 2, 1882, about eighteen hours after the case was seen by the President of the Board of Health, he sent to Dr. Atkinson, President of the Board of Health, Nashville, Tenn., to Dr. R. M. Swearingen, Health Officer of the State of Texas, at Austin, to Dr. W. D. Kelly,

President of the Galveston Board of Health, to Dr. Johnston, Secretary of the State Board of Health of Mississippi, at Jackson, to Dr. Fournier, Health Officer of Mobile, and to Governor McEnery, at Baton Rouge, the following telegram:

"A case of yellow fever reported at No. 25 Enghien street, Third District, yesterday, at 2 p. m. Died during the night. The Board of Health has taken all necessary measures of disinfection, fumigation and isolation. No other case known in the bounds of the city. City healthy and in good sanitary condition. Death rate per 1000 whites, 26.61.

JOSEPH JONES, M. D.,
President Board of Health.

The following instructions were issued:

NEW ORLEANS, August 2, 1882.

Dr. E. J. Mioton, Sanitary Inspector, Third District:

Sir—The Sanitary Inspector of the Third District will proceed to execute the following at once:

1. Disinfect and fumigate the house, yard and surroundings of No. 25 Enghien street.
2. Destroy by fire the bed, bedding, bed clothes and wearing apparel of Johannes Stroh, who died of yellow fever last night.
3. Allow no gathering of people in and around No. 25 Enghien street.
4. Cause the immediate burial of the body of Johannes Stroh.
5. Place your officers in charge of No. 25 Enghien street and of the surrounding blocks, and carry forward systematic inspection and disinfection throughout this section of the city.
6. The Sanitary Inspector should attend to the execution of these measures in person, and report all facts immediately to the Board of Health.

I send man and cart, with one barrel carbolic acid, one-half barrel sulphur and four barrels copperas. I have ordered Sanitary Policemen Wiltz and Blanchard to report to you for duty.

JOSEPH JONES, M. D.,
President Board af Health, State of Louisiana.

BOARD OF HEALTH,
New Orleans, August 2, 1882.

Hon. Joseph A. Shakspeare, Mayor City of New Orleans:

Dear Sir—The occurrence of a case of yellow fever at No. 25 Enghien street, in the Third District, demands prompt and decisive action on the part of the Honorable Administrators and Chief Executive Officer of New Orleans. The following measures are respectfully and earnestly commended to your Honor.

1. The detail of a sufficient force of laborers for the thorough cleaning of the gutters, streets, alleys and foul premises of the section of the Third District in and around No. 25 Enghien street.
2. Quick-lime and copperas should be freely used in the gutters and damp premises, and all unpainted woodwork should be whitewashed.
3. This section of New Orleans, embracing eight blocks on the river front, and eight blocks in depth (sixty-four blocks) with Enghien street as the centre, should be furnished with 128 barrels of lime (two barrels to each block), thirty-two barrels of copperas, and eight barrels of carbolic acid. These disinfectants will be distributed under the immediate direction of the Board of Health
4. Two carts and four men for distributing of lime and disinfectants.

Respectfully, your obedient servant,
JOSEPH JONES, M. D., President Board of Health.

The Mayor immediately indorsed the communication as follows:

"Referred to the Aministrator of Improvements, who will purchase the within articles (which will be paid for in cash) and distribute the same under the supervision of Dr. Jones, of the Board of Health.

"You will please give this your immediate attention.

"Yours respectfully,

"JOS. A. SHAKSPEARE, Mayor."

NEW ORLEANS, August 2, 1885.

Hon. John Fitzpatrick, Administrator of Improvements, City Hall:

Dear Sir—I would respectfully urge upon the Honorable Administrator of Improvements the necessity of placing a large force of laborers, with two carts and four men, in the Third District.

The occurrence of a case of yellow fever at 25 Enghien street renders it necessary that the gutters, streets, alleys and foul premises of this section of New Orleans should be thoroughly cleansed and disinfected.

Quick-lime should be freely used in the gutters of damp premises, and all unpainted woodwork should be whitewashed.

I advise the Honorable Administrator of Improvements to furnish at once to this section of New Orleans, embracing eight blocks on the river front and eight blocks in depth (sixty-four blocks), with Enghien street as the centre, 128 barrels of lime (two barrels to each block) and thirty-two barrels of copperas, and eight barrels of carbolic acid. Respectfully, your obedient servant,

JOSEPH JONES, M. D.

NEW ORLEANS, August 2, 1882.

Hon. Albert Baldwin, President New Orleans Waterworks Company:

Dear Sir—I would respectfully urge upon the President of the Waterworks Company the necessity of opening the plugs along the river front for several squares back in the Second and Third Districts.

The occurrence of a case of yellow fever at No. 25 Enghien street calls for the active assistance and co-operation of the Waterworks Company in the efforts to improve the sanitary conditions of the central portions of New Orleans.

Respectfully, your obedient servant,

JOSEPH JONES, M. D.,
President Board of Health, State of Louisiana.

MAYORALTY OF NEW ORLEANS,
New Orleans, La., August 3, 1882.

Joseph Jones, M. D., President Board of Health:

Sir—His Honor the Mayor is in receipt of your communication of this date, and directs me to notify you that your suggestions meet with his approval, and he has directed the Administrator of Improvements to purchase the articles mentioned in your communication, and to have them distributed and used under the immediate direction of the Board of Health.

By direction of the Mayor,

E. L. BOWERS, Chief Clerk.

Dr. Bayley, Sanitary Inspector First District, and Dr. Mandeville, Sanitary Inspector of the Fourth District, were assigned to temporary duty in the Third District, to aid Dr. Mioton.

It was arranged that an inspector was perpetually on duty directing the sanitary operations in the Third District.

With reference to the origin of this case, the following is a brief summary of the facts:

The house in which Stroh died, 25 Enghien street, is on the north side of the street, between Decatur street and the levee, and two doors from the north corner of Decatur. It is an old two-story brick building, in which Stroh had a back room on the ground floor. The house in which Forbes, the sailor from Havana by the steamship Marco Aurelio, first showed symptoms of yellow fever, is on the same square, on the opposite side of the street, but in full view, and 250 feet away. The number of the house was given in previous statements as 100 Levee street, but being on a corner, its side doors is 4 Enghien street, so that the near proximity of the building may be seen at a glance. The neighborhood is inhabited almost exclusively by acclimated persons, except an occasional new comer, like Stroh. Several cases of malarial fever have occurred lately in that locality, but there was nothing particularly suspicious, as the patients have usually been acclimated persons.

No detailed connection between Stroh and Forbes, who died on the twenty-seventh of June, of yellow fever at the Charity Hospital, but the proximity of their respective residences creates a strong presumption of such communication, and investigation may establish it.

Inquiry of the Messrs. Hernsheim developed the testimony from their books that their last importation of leaf tobacco and cigars from Havana, the sole articles they get from that port, was received here February 14 of this year. In June they also received several cigar hands direct from Cuba, but they did not work in the same department with Stroh, and nothing can be traced to the factory.

The case points to Forbes, the sailor, who died in the Charity Hospital, but was taken sick at his lodgings, No. 4 Enghien street, and from there, in all probability, the disease has emigrated.

OFFICE SANITARY INSPECTOR, THIRD DISTRICT,
NEW ORLEANS, LA., August 31, 1882.

Joseph Jones, M. D., President Board of Health:

Sir—The following brief report of sanitary operations performed in the Third District is respectfully submitted for consideration:

As is shown by considering the tables annexed to this report, the work performed during the month has been considerable, notwithstanding the warm weather; but it must be remembered that during the month two cases of yellow fever have taken place, one case at 25 Enghien street, the other at 85 North Peters street; and, therefore, our sanitary force had been at one time greatly increased, first by two medical inspectors, Drs. Bayley and Mandeville, by six sanitary officers of the Board of Health, ten men from the City Hall and three from the Auxiliary Sanitary Association.

During the month 4395 inspections were made, 605 notices to empty privy vaults served, and 84 squares or 3240 premises thoroughly cleansed and disinfected, also two squares or 86 houses whitewashed.

Since the eighth of August no other case of yellow fever has been reported, and the health of the district continues to be excellent, though we have on hand at the present date five cases of small-pox.

Very respectfully submitted,

EUG. J. MIOTON, Sanitary Inspector, Third District.

CASE OF YELLOW FEVER—MALACHIAS ENGLUND.

BOARD OF HEALTH, 12 m., August 10, 1882.

Dr. E. L. Mioton, Sanitary Inspector Third District:

Sir—You will please report at once at the office of the Board of Health, as I desire to confer with you on a matter of much importance.

Respectfully,

JOSEPH JONES, M. D.

Dr. Mioton was informed that a man had been taken sick, August 9, at 85 North Peters street, between Mandeville and Spain streets, at a carpenter shop, with chill, at 4 a. m. Entered Charity Hospital the same day. At 12 m. August 9, temperature 104, pulse 90. 3 p. m., temperature 104, pulse 80. August 10, the nurse is said to have taken the temperature at 6 a. m., and found it to be 101. Dr. Miles took the temperature at 8 a. m., and found it 103, with pulse 59. Slight trace of albumen was said to have been found in the urine.

Dr. Mioton was directed to investigate the case; to examine the house from whence the patient had been removed; to gather all the facts; to cleanse, fumigate and disinfect the premises, and order privy immediately emptied.

Dr. Faget, Jr., gave the above facts.

Dr. Mioton reported at once, as I had sent my horse and carriage for him.

BOARD OF HEALTH, August 10, 1882.

Dr, J. C. Faget, Chairman Committee on Infectious and Contagious Diseases:

Dear Sir—I would respectfully request that, as Chairman of the Committee on Infectious and Contagious Diseases, you should at once repair to the Charity Hospital, and examine critically a man in ward 21, from carpenter shop, No. 85 North Peters street, between Mandeville and Spain streets, taken sick, at 11 a. m., August 9, with chill.

Please report your views of the case, at the earliest practicable moment; and if possible be present at the meeting of the Board of Health, this evening, and give the Board the benefit of your extended experience.

Respectfully, yours.

JOSEPH JONES, M. D., President Board of Health.

BOARD OF HEALTH, August 10, 1882.

Dr. George K. Pratt, Member of Committee on Infectious and Contagious Diseases:

Dear Sir—Will you, in your official capacity as member of the Committee on Contagious and Infectious Diseases of the Board of Health, of the State of Louisiana, repair at once to the Charity Hospital, and examine critically a man in ward 21, carpenter, from 85 North Peters street, between Mandeville and Spain streets, who was attacked with chill August 9, and has high fever. Please report at earliest convenience; and hope that you will be present at the meeting of the Board of Health, and give the results of your investigation and experience.

Respectfully, yours,

JOSEPH JONES, M. D., President Board of Health.

In order to facilitate the investigation, I requested Dr. Faget, Sanitary Inspector of the Second District, to visit his patient in my carriage, and to return to the Board of Health from the Charity Hospital. Dr. Faget reported as follows:

Malachias Englund, 30 years old, native of Cardiff (Wales), two months in the city, taken sick August 9, at 4. a. m., with chill, at No. 85 North Peters street, between Mandeville and Spain; admitted in the Charity Hospital, August 9, morning; at 12 m., August 9, temperature 104, pulse 90; 3 p. m., August 9, temperature 104, pulse 80; a. m., August 10, temperature 103, pulse 59 (albumen in urine); 2 p. m., August temperature 102½, pulse 60 (⅓ albumen at 10 a. m).

CASE OF MALACHIAS ENGLUND, WHO DIED OF YELLOW FEVER, IN THE CHARITY HOSPITAL, NEW ORLEANS, AUGUST 14, 1882.

CLINICAL REPORT, CHARITY HOSPITAL.

NEW ORLEANS, August 9, 1882.

Malachias Englund, carpenter, aged 30 years, native of Cardiff (Wales). Time in the city two months and a half, married; does not drink whisky, but occasionally drinks a moderate quantity of beer. Has not been exposed to the sun, as he works in carpenter shop, No. 85 Peters street. He went to bed feeling perfectly well last night, at an early hour. He awoke at 3 a. m. with a chill. When the chill passed off he was brought to the hospital at 8 a. m. First observation at 9.15 a. m.; temperature in mouth 103 2-5°, pulse 92; face injected, eyes brilliant, conjunctiva red, acute cephalalgia, general pains particularly in lumbar region; skin dry and hot Pulse full, hard and *not fast;* disposition to vomit. scant urine (no albumen); tongue red on edge, thickly coated and dry; great thirst, peculiar odor of breath, pulsations at epigastrium extremely violent.

Patient states he has only been in the city two months and a half; he came from Cardiff (Wales), on steamship ————. Has not been unwell since he came here until 3 o'clock a. m., August 9, 1882. Says it is only two blocks from where last case came from.

Temperature at 8:45 a. m., 103 2-5; temperature taken just after a bath. Been working for Mr. Hickey, 85 Peters street.

August 10—Temperature at 8 a. m., 103 F., pulse 69, respiration 17. Vomited some bilious matter this morning Gums somewhat congested. No hemorrhage; no epigastric tenderness. Urine examined at 9:45 a. m.; albumen to about one-fourth of whole amount.

August 11—Temperature 104½, pulse 52, respiration 22. Patient this morning calm and resting easy; says he is suffering no pain whatever. Urine examined again this morning, one-fourth of which is found to be albumen. No tendency to suppression; no epigastric tenderness

August 12—Temperature at 12, 104; temperature at 6 p. m., 104; respiration, morning, 17; temperature, morning, 103½; evening, 104; pulse, morning, 92; evening, 80.

August 13—Temperature, morning, 101; evening, 102; pulse, morning, 69; evening, 64; respiration, 17.

August 14—Temperature, morning, 104½; respiration, 22.

REMARKS.

August 10—At 10 a. m. urine one-fourth albumen.

August 12—Pulse, morning, 60; evening, 70; respiration, morning, 24; evening, 30; temperature, morning, 102; evening, 103.

August 13—Pulse, morning 60, evening, 70; respiration, morning, 24; evening, 30½; temperature, morning, 103; evening, 103.

August 14—Pulse, morning, 62; evening, 74; respiration, morning, 26; evening, 23, temperature, morning, 103.5; evening, 103 6.

August 15—Pulse, morning, 100; evening, 110.5 temperature, morning, 104; evening, 105.

From August 10, when the urine was found to be highly albumenous (one-fourth in volume), the temperature ranged between 103.5 and 104, until August 15, when the temperature was one degree higher than it had been at any other time.

After August 12 the patient became restless, tossing about constantly in bed. The symptoms enumerated at the first observation became intensified, and he died August 15, at 4 o'clock p. m., having been sick seven days and twelve hours. Death occurred without any protracted struggle, apparently from a uraemic convulsion. Diagnosis: Yellow fever.

CHARITY HOSPITAL, AUGUST 16, 1882.

Dr. Joseph Jones, President Board of Health:

Dear Doctor—In compliance with your request, I herewith transmit report of the case of Malachias Englund, who died in the hospltal of yellow fever. * * * I inclose report of our pathologist.

Respectfully,

[Signed] A. B. MILES, M. D., House Surgeon.

PATHOLOGICAL DEPARTMENT, CHARITY HOSPITAL, AUGUST 16, 1882.

Dr. A. B. Miles, House Surgeon:

Dear Sir—I herewith present the report of the pathological condition of the organs of the body of Malachais Englund, as revealed by the autopsy.

The urine examined the day before death contained a considerable quantity of albumen, and also bile, besides great numbers of leucocytes (probably from the bladder), with epithelial cells from this organ, and a few granular cylinders from the kidneys. The same elements were found in the urine taken from the bladder after death.

The liver presented in its greatest part the so-called nutmeg appearance, while in some parts it showed a blue color, due to the congestion of its blood vessels; besides this, however, a decidedly golden color, due to the presence of bile in the organ. The gall-bladder contained a quantity of dark-brown bile. The microscopical examination showed the hepatic cells infiltrated with a considerable number of larger and smaller fat globules.

The kidneys presented a dark, bluish-red color, both upon the outer and the cut surfaces, indicating a high state of congestion. Small yellow spots were observed upon the cut surfaces, which, upon microscopical examination, proved to represent urinifcrous tubules, the epithelial cells of which contained larger and smaller fat globules. These fat globules appear to represent rather a fatty infiltration than true degeneration.

The supra-renal bodies presented upon the section an abnormal appearance, the substance being very dark brown, due to the extravasation of free hœmoglobin.

The stomach was large, and its mucous membrane appeared greatly swollen. Upon the internal surface of the latter were observed many blue patches, and also spots of ecchymoses, indicating previous congestion. The liquid found in the stomach after death contained great numbers of gastric epithelial cells, and also a number of decolorized colored blood corpuscles. Besides these elements, there were a small number of small masses, consisting of conglomerated, decolorized colored blood corpuscles, with free hæmoglobin, imparting to the whole a yellow color. The latter elements were the only representations of the so-called black vomit met with in this fluid.

The spleen was considerably enlarged by congestion, and presented a dark-brown color.

The pia mater of the brain was congested throughout, presenting very many patches of extravasation of free hæmoglobin. The substance of the brain was also congested.

The heart was quite large; microscopical examination showed the commencing fatty degeneration of its muscular elements.

In taking the above-stated pathological condition of the respective organs examined in this case into consideration, as a totality, I may fairly pronounce them as characteristic of yellow fever. The condition of the brain, and that of the heart, particularly, may, in this case, be looked upon as pathognomonic. In all my former autopsies, I have never met with a brain exhibiting more the congestion of this organ, in its typical form, than the case in question.

Very respectfully,

H. D. SCHMIDT, Pathologist.

EXTRACTS FROM PROCEEDINGS OF THE BOARD OF HEALTH, AT THE MEETING AUGTST 17, 1882. RESOLUTIONS BY HON. I. N. MARKS AND THE HON. ED. BOOTH, RELATIVE TO UNITED STATES MARINE HOSPITAL SERVICE AND THE APPROPRIATION BY CONGRESS.

The regular weekly meeting of the Board of Health was held, Dr. Joseph Jones, President, in the chair, and Drs. Faget, Von Gohren, Pratt and Kelis, and Messrs. Marks, Booth and Bosworth present.

Dr. Jones referred to the continued healthy condition of the city, and reported that during the five days of the present week there were only forty deaths from all causes. This, with a population of over 220,000, was almost unparalled in this or any other country in mid-summer. There was not at present a single case of yellow fever in the city.

Dr. Jones stated that he had received a copy of the printed circular issued from the office of the Supervising Surgeon-General of the United States Marine Hospital Service, relative to the disposition of the hundred thousand dollars in the hands of the Secretary of the Treasury in threatened or actual epidemics.

Under date of August 15, Dr. R. A. Bayley, Sanitary Inspector of the First District, reported that the front of the same, from Magazine street to the river, had been thoroughly inspected, disinfected and cleaned up.

Upon the written request of Dr. Bayley, he was granted a leave of absence for six weeks, ill health of himself and wife being assigned as the reason.

Dr. W. R. Mandeville, Sanitary Inspector of the Fourth District, was assigned as Sanitary Inspector of this district also, during the absence of Dr. Bayley.

Dr. Jones read a list of the amounts drawn to the thirty-first of July by the Board of Health against the appropriation of $10,000 by the Common Council for the year 1882, as follows: January, $575; February, $625; March, $625; April, $637 50; May, $650; June, $650; July, $650. Also in July the sum of $782 91 was paid by the city to G. R. Finlay & Co., and $197 90 for stationary, on account of the Board of Health, making a total of $5,393 31.

The monthly pro rata of the appropriation is $833, and the pro rata for seven months to August 1, $833 33, leaving a balance in favor of the board to that date of $34 02.

Dr. Jones read an elaborate article on the subject of the public health and quarantine under the laws passed by the last General Assembly.

The President stated that he had instructed Dr. Finney, the resident physician at the Mississippi Quarantine Station, to hold vessels from Mexican ports for observation till satisfied, as all Mexican ports were considered in the light of suspected ports.

A communication from Mr. N. G. Gunnegle and others, residing at McDonoghville, recommending that syphons be conveyed from the river over the levee, in order to produce a current of fresh water of sufficient force to cause the present stagnant water to recede, was referred to the committee on conference.

The committee reported recommending the petitioners to make their application to the Administrator of Improvement.

A communication from the Produce Exchange was read, inclosing a copy of a resolution adopted yesterday, and asking that the Board of Health, in the event of any case of yellow fever occurring under its jurisdiction, report the same as soon as ascertained to the Exchange, to be posted on the bulletin boards for the information of all the members of the body. The request will be granted.

Mr. Marks offered the following resolution, which was unanimously adopted:

Whereas, the President of the United States and the Secretary of the Treasury have very wisely determined that the appropriation made by Congress in aid of State and local boards of health shall be expended by the Marine Hospital Service of the government, be it therefore

Resolved, That the State Board of Health of Louisiana will thoroughly co-operate with the Marine Hospital Service of the government in all measures having for their object the preservation of the public health and the improvement of the sanitary condition of this city and its territory.

Resolved, That the thanks of this board be tendered to the President of the United States, the Secretary of the Treasury and Surgeon-General Hamilton, for their wise, prompt and efficient action in aid of State and local boards of health.

Resolved, That the Secretary of this board be instructed to convey copies of these resolutions to the President of the United States, the Secretary of the Treasury and Surgeon-General Hamilton.

The following resolution, introduced by Mr. Booth at the previous meeting and laid over for one week, came up and was unanimously adopted, with an amendment inserted that the Governer co-operate with the President of the Board.

Whereas, the Congress of the United States has generously appropriated the sum of $50,000 in care of the National Board of Health, to be applied in aid of State and local boards, therefore be it resolved by the State Board of Health of Louisiana that the President in its name be instructed to apply for $25,000 of said sum to be expended by this board under such regulation as may be deemed advisable by the Honorable Secretary of the Treasury, said disbursements to be devoted to the following objects:

Twenty thousand dollars to the improvement of the Mississippi River Quarantine Station.

Four thousand dollars for the improvement of the Rigolets Quarantine Station.

One thousand dollars for the improvement of the Atchafalaya Quarantine Station.

OFFICE SANITARY INSPECTOR THIRD DISTRICT,
New Orleans, La., October 1, 1882.

Joseph Jones, M. D., President Board of Health:

Sir—I have the honor to present for consideration the following brief report of sanitary operations performed in this office during the month of September, 1882;

The health of the community in this part of the city is very fair indeed, though variola still continues to be the prevailing disease, twenty-five cases of this malady having been reported this month. The character of this disease is of a mild type, there having been only four deaths from it during the month.

The public and private markets have been the object of a careful inspection, and it is my pleasant duty to report the same, with a few exceptions, in a fine and clean order—water supplies amply sufficient.

Eighteen hundred and six inspections were made, two hundred and sixty-five nuisances abated, and one hundred and seventy-seven notices to empty privy vaults served.

In the neighborhood of No, 312 Port street seven hundred and ninety premises were disinfected with lime, copperas and carbolic acid. A special communication to the Street Commissioner, in order to clean gutters of that vicinity, was sent, which was responded to immediately. Respectfully submitted,

E. J. MIOTON, M. D,, Sanitary Inspector Third District.

ESTABLISHMENT OF QUARANTINE AGAINST PENSACOLA BY THE BOARD OF HEALTH OF THE STATE OF LOUISIANA.

OFFICE OF BOARD OF HEALTH,
Pensacola, Fla. August 11, 1882,

Joseph Jones, M. D., President Board of Health, New Orleans:

Dear Sir—I return thanks for telegram regarding case of yellow fever at Charity Hospital, and beg leave to say that I shall transmit you to-morrow copy of the Pensacola *Advance Gazette*, containing detailed statement regarding suspicious cases in the Spanish bark Saleta, at Sullivan's wharf, Pensacola, ten days ago. Let me observe here in reference to those cases that to our experienced eye, notwithstanding no characteristic signs or symptoms were manifested during *life*, they would have been pronounced yellow fever. The one that died, on post-mortem inspection of the body, untouched by the knife, showed bloody exudation in mouth and throat. I saw the case late in the evening of the ninth instant; one was nearly *in extremis* and died at 8 a. m., next morning. This is the case in which the sanguinolent effusion was observed. I could obtain no urine for examination. I ordered the captain to weigh anchor and proceed at once to the Quarantine Station for observation and treatment, but as she had received on board almost her whole cargo, captain concluded to put to sea.

Very respectfully and faithfully yours,

ROBT. B. S. HARGIS, M. D.,
President Board of Health.

P. S.—The dead man was ordered to be buried at sea, as he was denied interment within city limits.

Yours, etc., R. B. S. H.

CHARITY HOSPITAL, STATE OF LOUISIANA,
New Orleans, September 21, 1882.

Joseph Jones, M. D., President Board of Health, State of Louisiana. New Orleans:

Dear Doctor—In compliance with the request of the Board of Health, the following statements are furnished:

1. Number of patients in the hospital, 646. Of the acute diseases the malarial fevers and the intestinal disorders predominate.

2. Our records show the case of Englund, admitted August 9, died August 15, the last case of yellow fever in the hospital.

3. The following case, rumored suspicious, of which you inquire, is copied from our records: "John Buckley, aged sixty years, homeless, was admitted into the hospital August 10, and died August 12 of chronic gastro enteritis."

At present no yellow fever, no suspicious case of fever, under our charge.

Very respectfully, A. B. MILES, M. D.

OFFICE OF BOARD OF HEALTH,
Pensacola, Fla., August 10, 1882.

At a meeting of the Board of Health, held this day, the following preamble and resolutions were adopted

In view of the fact of the unnecessary alarm created by the sending off, by the Board of Health, of a vessel having on board cases of sickness, in their opinion, of a suspicious nature, be it

Resolved, That the Board of Health, as in honor and duty bound, as the guardians of the public health, will officially announce the existence of the very first case of yellow fever which may occur. It was further

Resolved, That the public be notified that the board does not apprehend the breaking out of an epidemic, the city never being in a more healthy condition, and every precaution being taken to enforce a rigid and strict quarantine—the board taking every precaution, and, in every instance, giving the benefit of the doubt to the public and not to the shipping.

On motion, the above were ordered printed in the city papers.

R. B. S. HARGIS, M. D., President.

J. C. WHITING, M. D., Secretary.

[Telegram.]

PENSACOLA, FLA,, August 25, 1882.

Dr. Joseph Jones, President Board of Health, New Orleans:

This morning the mate of Italian bark Tiacenso Accame, in the stream, died, and the case pronounced yellow fever; vessel sent to Quarantine Station, when post mortem was held. On opening stomach, showed indications of black vomit matter. The vessel has been in port sixty days and came from Port Elizabeth, where yellow fever does not exist. D. A. BRENT,

Chairman Executive Committee Board of Health.

[Telegrams.]

PENSACOLA, FLA., August 28, 1882.

Dr. Joseph Jones, President Board of Health, New Orleans, La.:

The board officially reports the existence of two cases of yellow fever in the city. No deaths.

J. C. WHITNIG, M. D., Secretary.

OFFICE BOARD OF HEALTH, STATE OF LOUISIANA,
New Orleans, August 28, 1882.

Dr. Finney, Mississippi Quarantine Station; Dr. Carson, Rigolets Quarantine Station; Dr. Sigur, Morgan City:

Yellow fever at Pensacola. Subject all vessels from that port to ten days' quarantine.

JOSEPH JONES, M. D.

PRECAUTIONS AGAINST PENSACOLA. THE PROMPT ACTION OF THE HEALTH AUTHORITIES IN KEEPING THE PESTILENCE AWAY FROM NEW ORLEANS.

New Orleans Picayune, August 30, 1882.]

The dispatches reporting a serious outbreak of yellow fever at Pensacola, for the first time made public on Monday, were the subject of much interested inquiry and anxious comment on Tuesday. Applications to Dr. Jones, President of the Board of Health, elicited some information of interest as to the precautions which had been taken to guard against the introduction of the infection into this city from that quarter.

Dr. Jones showed from his official letter book, in the office of the Board of Health, that as early as August 11 he had been suspicious of possible danger from Pensacola, and on that date had issued to Dr. Finney, Quarantine Officer at the Mississippi Station, and to Dr. Carson, who holds a like position at the Rigoletes, orders to hold all vessels from Pensacola subject to the orders of the Board of Health. The case of the bark Iris, which had been discharged from quarantine at Ship Island with yellow fever on board, and so returned to Pensacola, was not calculated to strengthen confidence in that station, which was chiefly relied on by Pensacola as an outpost for the arrest and detention of infected ships visiting the waters of West Florida, and for that reason a close watch was set upon all water craft visiting this port from Pensacola.

The steamer Amite, sailing to Cedar Keys, but suspected of having communication with the shipping at Pensacola, had been made the subject of strict observation and examination, as was reported at the last meeting of the Board of Health. A further order had been telegraphed to all the Louisiana coast quarantine stations to subject all vessels from Pensacola to strict quarantine under the ten days' regulations, and Dr. Jones said he had little apprehension of danger by sea.

As to communication by land, the doctor had relied heretofore on the fact that Pensacola had been quarantined and watched by Mobile and Montgomery, and it was scarcely possible for freight or passengers to reach this city without first passing an inspection before reaching Mobile; nevertheless, he had already had a conference with Superintendent Harahan, of the Louisville and Nashville Railroad, and had delivered to him an order, of which the following is a copy:

OFFICE BOARD OF HEALTH, STATE OF LOUISIANA,
NEW ORLEANS, August 29, 1882.

J. T. Harahan, Superintendent Louisville and Nashville Railroad:

Sir—You are hereby prohibited from bringing any cars, passengers, merchandise or baggage from Pensacola within the bounds of the State of Louisiana. JOSEPH JONES, M. D.,

President Board of Health, State of Louisiana.

He further stated that the trains would be inspected.

The doctor said the entire matter will come up before the Board of Health on Thursday night, when further details will be arranged. In any case, he will relax no energies and neglect no precautions to protect the public health and keep the city in the excellent sanitary condition which has existed all through the summer so far.

Dr. Jones also exhibited the following correspondence on the subject of repairs to the government warehouse at Mississippi Station; it explains itself:

UNITED STATES CUSTOM HOUSE,
New Orleans, August 29, 1882.

Dr. Joseph Jones, President Board of Health, New Orleans, La.:

Work on the Mississippi River Quarantine Station will begin at once.

JOHN W. GLENN, Superintendent.

OFFICE BOARD OF HEALTH, STATE OF LOUISIANA,
NEW ORLEANS, August 29, 1882.

Gen. John W. Glenn, Superintendent United States Custom House:

Dear Sir—I desire to express the thanks of the Board of Health for the valuable efforts which you have made in behalf of the State quarantine, near the mouth of the Mississippi River; and I feel assured that the action of the Honorable Secretary of the United States Treasury in his prompt response to the telegram of his Excellency, Gov. S. D. McEnery, will command the thanks of the citizens of this State and of the entire valley.

Respectfully, your obedient servant, JOHN JONES, M. D.

PENSACOLA QUARANTINED—DR. JONES ISSUES ORDERS PO PROTECT NEW ORLEANS BY LAND AND WATER.

Times-Democrat, Wednesday, August 30, 1882.]

Yesterday the outbreak of yellow fever in Pensacola, Fla,, was the principal matter under consideration at the office of the Board of Health. For some three weeks past, the quarantine physicians, under instractions of Dr. Jones, have been on the lookout for vessels from Pensacola. On August 11, Dr. Jones instructed them as follows:

"Hold vessels from Pensacola subject to orders of Board of Health."

A few days later, August 16, Dr. Jones also instructed them, "exercise utmost vigilance with all vessels from Mexican ports. Yellow fever reported at Tampico and Tuxpan. In every case hold vessels from Mexican ports for observation until satisfied."

Upon learning of the fever at Pensacola, Dr. Jones instructed the physicians at the quarantine stations as follows;

AUGUST 28, 1882.

Dr. Carson, Miller's Bayou:

Hold Henrietta Esche ten days. Fumigate and disinfect thoroughly.

JOSEPH JONES, M. D.

AUGUST 29, 1882.

Dr. Finney, Resident Physician, Mississippi Quarantine Station:

Yellow fever at Pensacola. Subject all vessels from this port to ten days' quarantine.

JOSEPH JONES, M. D.

AUGUST 29, 1882.

Dr. Sigur, Quarantine Physician, Atchafalaya Quarantine Station:

Yellow fever at Pensacola. Subject all vessels from this port to ten days' quarantine.

JOSEPH JONES, M. D.,

OFFICE BOARD OF HEALTH, STATE OF LOUISIANA,
NEW ORLEANS, August 29, 1882.

J. T. Harahan, Superintendent Louisville and Nashville Railroad:

Sir—You are hereby prohibited from bringing any cars, passengers, merchandise or baggage from Pensacola within the bounds of Louisiana. JOSEPH JONES, M. D.

Mr. Harahan, who called on the Doctor shortly afterward, fully approved of the order, and will obey it to the letter He informed Louisville, Pensacola, Montgomery and Mobile of it by telegraph, and also furnished a copy to the Associated Press. Dr. Jones will have an inspector placed on the trains, and take all the necessary precautions to guard against the admission into the State of any person from Pensacola. He informed the different boards of health of his action.

RIGOLETS QUARANTINE STATION,
FORT PIKE, La., August 29, 1882.

Joseph Jones, M. D., President Board of Health, State of Louisiana:

Dear Sir—I have the honor to acknowledge the arrival, this moment, 4:20 o'clock p. m., of your telegram of even date, informing this station of the presence of yellow fever at Pensacola, with instructions to detain all vessels from that port ten days in quarantine.

Very respectfully, your most obedient servant,

WM. H. CARSON, M. D., Resident Physician.

RIGOLETS QUARANTINE STATION,
FORT PIKE, La., August 29, 1882.

Joseph Jones, M. D., President Board of Health, State of Louisiana:

Dear Sir—I have the honor to acknowledge the receipt of your telegram of the twenty-eighth instant, with instructions to detain the schooner Henrietta Esche ten days and cleanse.

The vessel has already received one course of fumigation and disinfection, and they are at present scrubbing and washing all parts of the vessel that can be reached. I will give her another fumigation before releasing. All on board of the Adolphe Flake and Henrietta Esche remain in good health and spirits.

Both vessels are anchored well out of the channel, and there is no chance of any intercourse or danger to vessels passing.

The Adolphe Flake will be released to-morrow evening (Wednesday) at 6 o'clock. She has been thoroughly attended to, and is as clean a vessel as one could wish.

I remain, sir, very respectfully, your obedient servant,

WM. H. CARSON, M. D., Resident Physician.

OFFICE BOARD OF HEALTH, STATE OF LOUISIANA,
NEW ORLEANS, August 30, 1882.

Wm. R. Mandeville, M. D., Sanitary Inspector Board of Health, State of Louisiana:

Sir—You are hereby assigned to duty at Lookout, near the boundary of Louisiana and Mississippi, and opposite the mouth of East Pearl river.

You will carry out the following instructions:

1. Inspect all trains from Mobile, and prevent the introduction into the State of Louisiana of all passengers, merchandise and baggage from Pensacola, Fla.

2. Board all vessels entering the mouth of East Pearl river, or any of the approaches in the neighborhood of Lookout, and subject all vessels from Pensacola or any other infected port to the provisions of the quarantine laws of Louisiana.

3. I have ordered Sanitary Policemen E. Bohner and L. D. Allen to report to you at Point Lookout for duty.

(SEAL.) JOSEPH JONES, President Board Health, State of Louisiana.

NEW ORLEANS, August 30, 1882.

E. Bohner, Sanitary Policeman, Board of Health, State of Louisiana:

Sir—You are hereby directed to report to Sanitary Inspector, Dr. Mandeville, for special inspection and quarantine duty at Point Lookout, near the boundary line of Louisiana and Mississippi, and opposite the mouth of East Pearl River.

[Signed] JOSEPH JONES, M. D.

NEW ORLEANS. August 30, 1882.

L. D. Allen, Sanitary Policeman Board of Health, State of Louisiana:

Sir—You are hereby directed to repert to Sanitary Inspector, Dr. Mandeville, for special inspection and quarantine duty at Point Lookout, near the boundary line of Louisiana and Mississippi, and opposite the mouth of East Pearl River.

[Signed] JOSEPH JONES, M, D.

Dr. C. Faget, Sanitary Inspector Second District:

Sir—In consequence of the temporery absence of the Sanitary Inspector of the First District, you are hereby directed and empowered to assume direction of the First District in addition to the Second District, and will discharge the duties of both districts until furthur orders. Respectfully,

[Signed] JOSEPH JONES, M. D.

OFFICE BOARD OF HEALTH, STATE OF LOUISIANA,
New Orleans, August 30, 1882.

Dr. Wm. Ryan, Sanitary Inspector Sixth and Seventh Districts;

Sir—In consequence of the temporary absence of the Sanitary Inspector of the Fourth District, you are hereby directed and empowered to assume direction of the Fourth District, in addition to the Sixth and Seventh Districts, and will discharge the Sanitary duties of these districts until further orders.

Respectfully,

[Signed] JOSEPH JONES, M. D.

NEW ORLEANS, August 30, 1882.

Mr. Ward, U. S. Customs Inspector, Lookout Station, Louisville and Nashville Railroad:

Dear Sir—The Board of Health of the State of Louisiana has assigned Dr. Wm. R. Mandeville to quarantine and inspection duty at Lookout.

Dr. Mandeville has assigned to him two sanitary officers, Messrs. Bohner and Allen.

Any assistance you may be able to render Dr. Mandeville in the discharge of his inspection duties will be appreciated by Yours, respectfully,

JOSEPH JONES, M. D.

OFFICE BOARD OF HEALTH, STATE OF LOUISIANA,
New Orleans, August 30, 1882.

J. T. Harahan, Esq, Superintendent Louisville and Nashville Railroad Company:

Sir—The Board of Health of the State of Louisiana has assigned Sanitary Inspector Wm R. Mandeville, M. D., to duty at Lookout Station, on the Louisville and Nashville Railroad.

You will stop all trains from Mobile, for a sufficient length of time for the inspection of passengers, baggage and merchandise or freight, by the Inspector of the Board of Health of the State of Louisiana.

I have ordered Sanitary Policemen E. Bohner and L. D. Allen to report for duty to Dr. Mandeville, at Point Lookout. Respectfully,

JOSEPH JONES, M. D.

LOUISVILLE & NASHVILLE RAILROAD COMPANY,
Office of Superintendent, New Orleans, La., August 27, 1882.

Joseph Jones, M. D., President Louisiana Board of Health:

Dear Sir—I enclose you circular issued in reference to suspected persons from Pensacola. I think it will assist in protecting us. I am reliably informed there are quite a number of people en route to New Orleans from Pensacola. I suggest to you that the only way to stop this is to put on inspectors. This company will

of course pass these inspectors free over this road, and will assist them all that lies in our power. Mobile just informs me that your actions in quarantining against Pensacola assists them very much, and is very much appreciated by them. I think by co-operation everything will run smoothly.

Yours, very truly, J. T. HARAHAN, Superintendent.

TO ALL AGENTS AND CONDUCTORS.

The Louisiana State Board of Health and the Mobile and Montgomery Boards of Health have quarantined against Pensacola. There is some fear that passengers may come to points on the New Orleans and Mobile division, and then return to those points that have quarantined. You will watch all strangers and suspicious persons, and where tickets are sold or persons get on the trains, notify the conductor of this, stating who the party is, giving the number of the ticket the party purchased, that they may be identified. Should no ticket be purchased, notify the conductor, giving him a description of the party. Conductors will notify the Board of Health Inspectors on their trains of the information given them, and will also notify me by wire from first open telegraph station. Good judgment must be displayed by agents and conductors that no unnecessary hardship may be imposed on innocent persons. Agents will ask all suspicious persons if they are from Pensacola, and should they have been there within the time prescribed by the Boards of Health, you will refuse to sell tickets to all points that have quarantined, informing the persons that quarantine has been established against them.

This is for your private information. J. T. HARAHAN, Superintendent.

NEW ORLEANS, La., October 5, 1882.

Joseph Jones, M. D., President Board of Health:

Sir—I respectfully present this, my report for the month of September as Quarantine Physician, English Lookout, L. & N. R. R., Louisiana. Enclosed will be found a table showing number of trains inspected, passenger and freight, and number of persons detained in quarantine. I examined into the sanitary condition of the lake towns, and find that they have no local boards of health, under ordinary occasions, nor any quarantine regulations. The fœcal matter from the vaults is used as garden manure, and that every one is his own sanitarian.

At Biloxi there is constant and daily communication with Ship Island, by means of sailing boats, but they are not allowed to enter the quarantine grounds.

Special praise is due Officers Allen and Bohner for the faithful and conscientious manner in which they discharged the delicate duties required of them; also to Mr. Victor Ward, the United States Customhouse officer, for kind assistance in enabling us to board vessels. Very respectfully,

W. Rt MANDEVILLE, M. D., Quarantine Physician, English Lookout.

NEW ORLEANS, October 16, 1882.

To Joseph Jones, M. D., President Board of Health, State of Louisiana:

Dear Sir—I respectfully submit to you the following report of inspections of trains and passengers, made at English Lookout Quarantine Station, Louisiana. This is from October 1, 1882, up to and including October 16, 1882.

On Saturday evening, October 7, 1882, I detained six sailors at Lookout Station; they had been at Ship Island. On Monday, October 9, 1882, these sailors were released from quarantine, by order of the President of Board of Health. The following is the history of the case:

The American schooner Susan Scranton cleared from the port of Havana, on August 12, with water ballast, and clean bill of health. She arrived at Ship Island on the twenty-second day of September, was fumigated and detained there ten days; left Ship Island on the third of October for Pascagoula; on October 4, went to Scranton, Mississippi.

The following are the names of persons of the Susan Scranton who were detained at Lookout: Capt. H. Schriever, who had yellow fever in Havana, about twenty years ago. Mate: John M. Lococh had yellow fever in Tampico. Sailors—Lewis Evenson, Henry Grard, Thomas Peterson, Christian Jackson. None of sailors have had yellow fever.

There is a health officer stationed near Grand Bay, Miss., who examined all trains from Mobile, Ala. This is the form of certificate given to conductors:

FORM NO. 1.

I hereby certify that train No. ————, Conductor ————, from Mobile, Alabama, has complied with all rules and regulations of the Mississippi State Board of Health, relating to trains entering the State.

Station on Louisville and Nashville Railroad, near Grand Bay.

Date ———— 1882. J. C. COWAN, M. D., Health Officer.

The United States mails from Pensacola are fumigated at Pensacola Junction, before entering Mobile.

On the following pages you will find a complete list of freight and passenger trains inspected at English Lookout Quarantine Station, also time of arrival and names of conductors. The way bills of freight trains have been examined, so as to have nothing from infected districts escape.

I am, very respectfully, WM. RYAN, M. D. Quarantine Inspector, English Lookout, La.

SANITARY AND MEDICAL INSPECTION IN THE MISSISSIPPI VALLEY.

[Extract from the Proceedings Board of Health, July 13, 1882.]

THE BOARD OF HEALTH—REGULAR WEEKLY MEETING—THE HEALTH OF THE CITY GOOD—THE BOARD RESENT THE INTERMEDDLING OF THE OFFICERS OF THE NATIONAL BOARD OF HEALTH.

The regular weekly meeting of the State Board of Health was held last evening, Dr. Joseph Jones President, in the chair, and Drs. Formento, Faget, Von Gohren and Kells, and Messrs. Marks, Booth and Bosworth present

Dr Jones called the attention of the Board to the remarkably healthy condition of the city for this season of the year, and to the almost total absence of any contagious or infectious diseases. During the week ending Saturday last, there were only 102 deaths in New Orleans from all causes, and during the last five days, ending Thursday evening, but forty-six deaths had occurred, two of which were from scarlatina, one from small-pox, and one from malarial fever. The steady high temperature which we have had of late, was conducive to health,

Dr, Jones stated that he held under personal inspection the house No. 98 Old Levee street, where Henry Forbes was first taken sick, and although there were fifteen persons in this and the adjoining house, six of whom were small children, not a single case of sickness had occurred among them to date, and all were in a perfectly healthy condition.

In regard to small-pox, Dr Jones said the Board and its officers had done everything in their power to prevent the spread of that disease, and regretted that vaccination was not made compulsory by law.

Reference was made to the quarantine and health laws passed at the recent session of the Legislature. The former was in substance the same law as that passed in 1855, with but slight change in the wording.

The act requiring that all inhabitable rooms should be provided with a water capacity of 200 gallons, Dr. Jones said was in the right direction, but this supply was insufficient.

A special report from Dr. Beret, Sanitary Inspector of the Fifth District, was read relative to the health of Algiers in connection with the overflow in the rear from the Live Oak crevasse, showing that as yet no serious effects had resulted therefrom.

A communication from Dr. Finney, Resident Physician at the Mississippi Quarantine Station, was read, showing that all the vessels there were in a clean and healthy condition.

Mr. Marks introduced the following resolution:

Whereas, the Memphis Board of Health has adopted a resolution to the effect that on and after the fifteenth inst., and until October 1, 1882, coffee, rice, sugar, molasses, spices, and all tropical fruits, etc., shall be prohibited from entering Memphis, coming from Southern ports, and this extraordinary and uncalled-for action (as far as New Orleans is interested), has been superinduced by the action of the National Board, in suspending its inspection service; and whereas, the city of New Orleans is entirely free from epidemic diseases of every kind, and in a state of health comparing favorably with any of the large cities of the Union; and whereas, the efforts of intimidation that are being made to terrify Congress into making appropriations for the support of the National Board, by declaring non-intercourse with this city, or through the appeal of the Secretary of the National Board to the trusty shotgun, should not assume the dangerous form of the unneeessary destruction of commerce; be it therefore

Resolved, That the State Board of Health of Louisiana views with regret and astonishment the action of the Board of Health of Memphis, and respectfully requests that so far as this city is concerned this action be reconsidered.

Mr. Marks said that if this action by the Memphis Board was to protect the people of that city from the introduction of any contagious or infectious disease, why was it that such articles of commerce as were excluded from New Orleans, after being subjected to thorough disinfection and a detention of ten days at the quarantine station, were received from New York with only one day's detention at the quarantine station there?

The resolution was unanimously adopted and the Secretary instructed to forward a copy to the Memphis Board of Health.

Mr. Booth introduced the following resolution:

Whereas, an effort is being made to have it appear that the health of the people of New Orleans, of Louisiana and of the Mississippi Valley is being jeopardized by the Congress of the United States in refusing to continue the appropriation for the salaries of the official staff of the National Board of Health; and whereas, Dr. J. T. Turner, Secretary of said National Board of Health has caused to be circulated (it is to be supposed), by order of said Board, a scandalous telegram, as below, to say:

MEMPHIS, July 9.—Dr. R. W. Mitchell, resident member of the National Board of Health, this morning received the following telegram from Dr. J, T. Turner, Secretary of the National Board of Health at Washington:

"Give notice to all concerned to be prepared to close inspections on the fifteenth inst., and get all government property ready to place out of commission. Notify the valley. This action is owing to Congress failing to make an appropriation, and in the event of an outbreak of fever along the coast, remands the residents of the Mississippi Valley to such protection as can be given by the State and local boards of health and the trusty shotgun,"

This alleged notification, as aforesaid, intended as a libel upon this and other State Boards of Health, and, by thus defaming them, to bulldoze the Congress of the United States, into granting said National Board of Health their accustomed moneys and salaries; and

Whereas, said National Board of Health, by the emission of such innuendos and incendiary publications, violates the conventionalities of official interconrse in a gross and unwarrantable manner, showing what it would do if it once had power, and reflecting most aristocratically upon self-governing ability of the American people; therefore, be it

Resolved, That the telegram of Secretary Turner be copied and forwarded to President Cabell, of the National Board of Health, with a request that in future—if the board has any future—their communications to the people of the valley be couched in more decorous language when alluding to the board.

Resolved. That the State Board, supported by the confidence of the people, will continue its efforts, with aid from State, city and volunteers, to ward off the importation of foreign pestilence, and trusts that, with the help of a beneficent Providence guiding the skill and courage of man, the health of the valley may be preserved without recourse to the "trusty shotgun," recommended by the National Board of Health.

The resolution was adopted, when the board adjourned.

[Extracts from the proceedings of the Board of Health, State of Louisiana, regular meeting July 20, 1882.]

The following communication from the President of the National Board of Health was read:

NATIONAL BOARD OF HEALTH,
UNIVERSITY OF VIRGINIA, July 17, 1882.

S. S Herrick, M. D., Secretary of Board of Health, New Orleans, La.:

Dear Sir—I have this minute received your communication of the fourteenth inst., transmitting a copy of resolutions offered by Mr. Booth, and adopted at a meeting of your board, held July 13.

In reply, I have to say that Dr. Turner sent no such telegram, as was falsely alleged in the Picayune of July 10. His message to Dr. Mitchell, which I have seen on the stub of the telegram book, closed with the words "Notify the valley." The last sentence of the message ascribed to him, beginning with the words, "This action, etc.," and closing with the words "trusty shotgun," is apparently a comment added by the person transmitting the message to New Orleans from Memphis.

I have seen the same message, in identical terms, printed in an Indianapolis newspaper, but there it is printed correctly. The marks of quotation include only the part ending with the words, "Notify the valley." The added sentence is printed in a distinct type, without marks of quotation, as the comments of another person. The message to Indianapolis bears the same date (July 9) as that to New Orleans, and was evidently sent by the same party and at the same time I am constrained to infer that the alteration was made in New Orleans.

Very respectfully,

J. L. CABELL, President National Board of Health.

Mr. Marks indignantly denied that the dispatch had been changed or manipulated in the office of any journal in New Orleans, and he was sure this charge was unjust. The Secretary of the National Board of Health had not given any distinguished evi lence of his prudence and wisdom in writing letters about health matters in the Mississippi Valley.

A dispatch was read from Surgeon-General Hamilton, of the United States Marine Hospital Service, under date of July 17, to Dr. John Godfrey, at the Customhouse, in this city, empowering him to inspect vessels departing for ports up the river, on the request of masters of vessels, and directing him to refer the matter to the State Board of Health, which Dr. Godfrey had done, transmitting a copy of the dispatch from Surgeon-General Hamilton to the board.

Mr. Marks said in this connection: "It is a matter of great importance that wide publicity be given to this proffer on the part of our government, not only because the service will be faithfully performed, and without cost to the steamboat interest, but because, above all else, it will command the confidence of the people of the Mississippi Valley.

"The National Board of Health has created the impression that the costs of the inspection service on railroads and steamboats has been paid out of the appropriations of Congress, and in consequence of the failure of Congress at this session to make additional appropriations it threatened the dissolution of the service on the fifteenth of July, and would turn over this section of the country to the guardianship of the "trusty shotgun."

This deception was perfectly in keeping with the past history of the National Board. It is well known to the officers of that institution that the inspection service was not dependent upon congressional appropriations. It was within their full knowledge that railroads and steamboats had been required to pay the costs of inspection, and that inspectors upon railroads had been drawing salaries of $150 per month, paid by the railroads themselves.

"Why was this gross deception practiced upon the people? Why was a suspension of the inspection service threatened? The answer is simply this, because Congress required, in the opinion of the National Board officers, a certain amount of fright and intimidation.

"I trust that it will be generally made known that the inspection service is not, and has not been, contingent upon congressional aid or National Board deceptions."

Mr. Marks moved to adopt the offer of Surgeon-General Hamilton, and that the shipping inspector be directed to distribute copies of Dr. Godfrey's letter. Carried.

[Extracts from proceedings of the Board of Health, State of Louisiana, at regular meeting, July 27, 1882.

The Board of Health assembled at their rooms in the St. Louis Hotel building at seven o'clock on Thursday evening, with the President, Dr. Joseph Jones, in the chair, and Messrs. Booth and Marks and Drs. Formento, Faget, Kells and Von Gohren present.

The President made a verbal report of matters before the Board, in the course of which he stated that under the new law providing for quarantine fees from vessels visiting this port he did not think the income would be more than $20,000 for the year. In 1855 it had been $45,000, but the tendency of commerce in this day is to increase the capacity of vessels at the expense of their number, and hence a system of fees based on the nu "ber of such vessels showed a falling off.

He stated that all the cities of neighboring States had exhibited the utmost good feeling towards New Orleans, with perhaps the exception of Memphis and Vicksburg, but Memphis alone had made threats of quarantine Chicago, away off on the lakes, had also tried to create a public opinion against New Orleans, but that need scarcely be mentioned.

The relations of this city with St. Louis, Galveston, Mobile and other points were of the most satisfactory character.

The proposition from Surgeon General Hamilton, of the marine hospital service of the United States, to take charge of the inspection of vessels on the Mississippi river, he considered to be of the utmost importance, as it placed the inspection service in reliable and impartial hands. He had written to Surgeon General Hamilton conveying the high appreciation of the Board in the premises, and in view of the fact that Congress has made an appropriation for a marine hospital at this point he had ventured to suggest that it would be wise for the government to establish here a floating hospital in the river for the care and isolation of cases of yellow fever, small-pox and the like, occurring among sailors.

Mr. George Pandely came in and handed the President a dispatch just received from a correspondent in Galveston stating that a disease resembling yellow fever, but not yet pronounced on by the physicians, had made its appearance at Matamoras, Mexico. It was resolved to telegraph promptly to get the facts.

Mr. Booth arose to protest against expressions made in some of the public prints to the effect that the members of this Board were the creatures and minions of its President, and only acted at his dictation. He then offered the following:

Resolved, That this Board is in full accordance with its President, Dr. Joseph Jones, as to the administration of his office, and any attempt to single him out by name for animadversion, or to separate him from his fellow members as though they were opposed to, him but were somehow controlled to his support, falls far short of its intended object, and can only expose the animus of whoever, for their own reasons unfriendly to the Board, would thus seek to divide and conquer.

After a failure to lay on the table, the resolution was passed.

Mr. Marks arose to a question of privilege to defend himself against statements made in the Times-Democrat of last Sunday. He read from that journal a communication from Dr. S. E. Chaillé, of the National Board of Health, and also editorial remarks thereon, reflecting, as he thought, on himself. Mr. Marks said:

The communication, comment and publication arises out of statements made by me at the last meeting of the Board of Health.

The statements made that the railroad companies were paying the salaries of the inspectors were correct, and I had high railroad authority for making them. This I will show before I get through.

Such being the case, why was the Memphis Board of Health, immediately under the supervision of the National Board of Health Inspector, permitted to lay an embargo upon the commerce of New Orleans, assigning as its reason the discontinuance of the inspection service on the fifteenth of July. Knowing, as they did, that the inspection service was to be continued,, and at the cost of the railroad companies, they deliberately deceived the public, and did this solely with the view of advising Congress of the terrible danger the clean city of Memphis would be exposed to, in the event of the suspension of the *pro forma* rail road inspection service.

But let me review Dr. Chaillé's statement, and endeavor to get at the true inwardness of it.

He states that "during the year 1881 the total amount expended on the inspection service, under my control and for the benefit of New Orleans, was $6372 80." As but $440 was paid by the railroad, and nothing by river craft, the public would like to know in what manner the balance of the amount was expended in the inspection service. For this purpose I proposed to respectfully request the Supervising Inspector to reply to the following interrogatories:

1. When did the inspection service commence on the Chicago and St. Louis Railroad and on the Louisville and Nashville Road in 1882? How long did it continue? How much did these roads pay? How much was paid by the National Board?

2. Have there been any inspectors on the Morgan Texas Road in 1881 and in 1882? If not, why not?

If there has been any inspection on this road in either year, by whom was it paid, and what amount?

3. How much did the steamboat inspection service cost in 1881 and 1882, and by whom paid?

4. How much has been paid out of the inspection service fund in 1881 and 1882 for the expenses of the Ship Island Quarantine Station?

5. How much has been paid out of the inspection service fund in 1881 and 1882 for the running and maintenance of the steam launch Day Dream?

6. How much has been paid out of the inspection service fund in 1881 and 1882, for the following items, viz.:

The salary of Dr. Patton, at the Mississippi Quarantine Station.

The salary of the Supervising Inspector.

The salary or emoluments of the resident member of the National Board.

7. Does this inspection service fund contribute to any expense incurred outside of this State? If so, what amount, and where?

8. State any other items, charged to this fund.

The object of these inquiries is to ascertain how much is actually paid the inspection service at this point; not how much is charged up to this item. When this information is furnished we shall be partially informed of the true inwardness of the workings of the so-called inspection service.

While waiting for this, I will throw some additional light upon the subject. When I found that the statement I had submitted, on good railroad authority, had been questioned, and that there was a determination to maintain the false impression that has been created, that the railroad inspections had been paid for by the National Board of Health, and were contingent upon additional congressional appropriations, I addressed communications to two of the railroad companies, to which I received prompt replies.

The Chicago and St. Louis Road writes as follows:

NEW ORLEANS, July 24, 1882.

I. N. Marks, Esq., Member State Board of Health, 33 Camp street, New Orleans:

Dear Sir—In the absence of Mr. Clark, I beg to acknowledge receipt of your favor of this date, as to cost of National Board of Health inspection service to this company. I would say, in reply, that we paid in 1881 $220 for such service, and have agreed to pay at the rate of $150 per month during its continuance the current year, commencing July 1. Respectfully,

T. E. KING,
Secretary, for President.

The $220 paid in 1881 was for inspection service from August 17 to September 30, about seven weeks.

The inspection service of this year commenced on July 1, fifteen days before the Memphis quarantine.

Subsequently to receiving this letter, I learned from an officer of the company that in 1880 this railroad paid $4380 for this service.

The Louisville and Nashville Road writes as follows:

NEW ORLEANS, July 25, 1882,

"I, N. Marks, Esq., New Orleans, La-:

"*Dear Sir*—Yours of the twenty-fourth received this a. m. In reply, will say that during the year 1881 this company paid $225 to the National Board of Health for an inspector for this road. We have also agreed to pay $150 per month, commencing with the first of July, this year, and to be paid as long as the inspector is kept on. "Hoping this information will be all you need, I am, yours truly,

"J. T. HARAHAN, Superintendent."

Is it necessary to comment upon this extraordinary development? Is it not about time that the *false public opinion*, which has been instigated and engineered by the paid agents of the National Board, should be dissipated, and that a just and proper appreciation of its workings be manifested by all of the public press and people?

Should it not be declared that, when Memphis establishes an antediluvian quarantine that the N. B. engineer is on duty?

That when the Illinois council is sending forth its fulminations, that the salary of the engineer has been doubled?

That when Jackson and Vicksburg and Little Rock cry out for additional aid for the National Board, that the shrill cry of the appropriation steam whistle speeds the ubiquitary pretense of the same engineer?

Thus the whole of this so-called public opinion emanates from the paid agents of this institution.

This board can confidently and securely rest upon the true public opinion of this community, as recently manifested in the strong endorsement of it by the Chamber of Commerce and the Produce Exchange, and in the good opinion of all surrounding communities not manipulated by or tampered with by the salaried agents of the National Board.

And in full accord with and supported by the Governor of Louisiana, and executing in good faith the laws of the State, it can afford to permit all the pigmy attempts of its opponents to defame it, or to weaken public opinion in its support, to proceed *ad libitum*.

The board went into executive session and adjourned,

OFFICE BOARD OF HEALTH, STATE OF LOUISIANA,
NEW ORLEANS, July 19, 1882.

To Surgeon-General Hamilton, United States Marine Hospital Service, Washington, D. C.:

The welfare of the country will be promoted if the Inspection Service of the Mississippi Valley, and throughout the United States should be confided to your department, which has facilities for the proper treatment and isolation of infectious and contagious diseases.

New Orleans is in good sanitary condition, and absolutely free from yellow fever. Annual death-rate per 1000 white inhabitants, 20.3. * * * *

JOSEPH JONES, M. D., President Board of Health, State of Louisiana.

[Telegram.]

TREASURY DEPARTMENT,
OFFICE SUPERVISING SURGEON-GENERAL, U. S. MARINE HOSPITAL SERVICE,
Washington, July 20, 1883.

To Joseph Jones, M. D. President State Board of Health of Louisiana, New Orleans:

Sir—I have the honor to acknowledge the receipt of the dispatch of this date, and to enclose you a copy of an order this day sent Dr. Godfrey, the medical officer in charge of this service at the port of New Orleans.

In this connection, you are informed that a copy of your dispatch has been forwarded by the Secretary of the Treasury to the Senate Committee on Appropriations, with the information that the facilities exist in the Marine Hospital Service for the proper inspection of vessels proceeding up-river from New Orleans, without any additional appropriation from Congress.

I have to further request that you will, at any time, suggest any method by which this service may aid the State Board of Health of Louisiana, so far as the treatment of sailors and persons employed on steam boats is concerned. Very respectfully,

JOHN B. HAMILTON,
Surgeon-General, U. S. M. H. S.

TREASURY DEPARTMENT,
OFFICE SUPERVISING SURGEON-GENERAL, U. S. MARINE HOSPITAL SERVICE,
Washington, July 20, 1882.

P. A. Surgeon John Godfrey, U. S. Marine Hospital Service, New Orleans, La.:

Sir—I inclose for your information a copy of a dispatch this day received from Dr. Joseph Jones, President of the Board of Health of the State of Louisiana, and to inform you that the same has been laid before the Secretary of the Treasury, who directs that you inspect vessels leaving New Orleans for up river, on the request of the masters, and furnish a certificate of the result of the same without charge.

Dr. Jones has been informed of this action, and also that you will co-operate with him as far as is in your power. Yours, very respectfully,

JOHN B. HAMILTON,
Surgeon-General, M. H. S.

U. S. MARINE HOSPITAL SERVICE,
DISTRICT OF THE GULF, PORT OF NEW ORLEANS,
Surgeon's Office, July 24, 1882.

To President Board of Health, State of Louisiana:

I have the honor to say that hereafter such up-river vessels as desire health inspection can have it done without cost, and obtain certificates of sanitary status of passengers and crew, if the masters thereof wil make application at my office in the Custom House. Assistant Surgeon Armstrong will inspect in person

Very respectfully, JOHN GODFREY,
Past Assistant Surgeon, M. H. S.

CIRCULAR—THREATENED OR ACTUAL EPIDEMICS.

TREASURY DEPARTMENT,
OFFICE SUPERVISING SURGEON-GENERAL, UNITED STATES MARINE HOSTITAL SERVICE,
Washington, D. C., August 9, 1882.

To Medical Officers of the Marine Service and Officers of State and Municipal Boards of Health.

I am directed by the Secretary of the Treasury to inform you that Congress, at its last session, enacted that—

"The President of the United States is hereby authorized, in case of a threatened or actual epidemic, to use a sum not exceeding one hundred thousand dollars, out of any money in the Treasury not otherwise appropriated, in aid of State and local boards, or otherwise in his discretion, in preventing and suppressing the spread of the same."

He further directs me to inform you that the President has decided to employ this contingent appropriation through the agency of the Treasury Department, and that, in case of a threatened or actual epidemic, immediate action will be taken, upon application, from the Governor of a State addressed to the Secretary of the Treasury.

JOHN B. HAMILTON,
Supervising Surgeon General United States Marine Hospital Service.

MISSISSIPPI QUARANTINE STATION, 1882—REPORT OF J. F. FINNEY, M. D., RESIDENT PHYSICIAN, MISSISSIPPI QUARANTINE.

MISSISSIPPI RIVER QUARANTINE, LOUISIANA,
December 31, 1882.

To the Hon. President and Members Louisiana State Board of Health, New Orleans, La.:

Gentlemen—I respectfully submit this my report of this station for the year ending December 31, 1882. It is embraced in tabulated statements numbered one to four, whose headings indicate the nature of each.

In reference to these statements, I would call your special attention to the fact, as shown by number four, that there has not been at this station during the past year a case of yellow fever; notwithstanding the fact that one occurred in New Orleans as early as June, and which would have been developed here if at that time there had been a quarantine detention of ten days for vessels arriving from infected ports.

I fail to see the wisdom of or benefits to be derived from a quarantine detention of three days for a short while, and then increasing it to ten days for the remainder of the season.

If it is the intention of your honorable body to quarantine vessels from infected ports during the summer for a minimum period of ten days, I would suggest that you so proclaim it from the beginning.

Last September we were visited by a terrible cyclone which did considerable damage. The grounds were submerged by sea water for three days, the fencing and water closets blown down and much of the fencing and loose articles washed away, the painting on all the buildings was either washed off or discolored, and considerable plaster fell from the walls and ceilings. Since then, however, with the limited means at hand, I have managed to have the grounds and buildings thoroughly cleansed and disinfected, the latter being necessary on account of the number of drowned animals and decayed vegetable matter left by the subsiding waters, the fences repaired as far as possible and levees put in good condition, with the exception of fascining, which is very necessary, and the walls and ceiling replastered.

I have made the following estimate of the material and repairs needed and cost: Lumber, $105; barb wire and staples, $45; labor, $50; painting exterior of buildings, two coats in oil and whitewashing fences and outbuildings, $500. Total, $700. With this small outlay the buildings will be preserved and the station present a commendable appearance.

In conclusion, I would ask your honorable body to allow me the employment of a man as hospital steward, the same to be a competent druggist, to take charge of and care for the hospitals and their effects, compound medicines, and perform such other duties as may be required of him by the Resident Physician. Such an officer is essential for the proper management of this station.

Very respectfully, your obedient servant,
J. F. FINNEY, M. D., Resident Physician.

[No. 1.] VESSELS ARRIVED, 1882.

MONTHS.	Steamship.	Ships.	Barks.	Brigs.	Schooners.	TOTAL.
January	46	6	24	4	8	88
February	36	5	11	3	10	65
March	41	9	25	8	15	98
April	59	2	9	2	21	93
May	51	5	10	.....	14	80
June	30	2	12	3	17	64
July	24	2	5	2	9	42
August	45	3	5	.....	7	60
September	61	5	9	2	11	88
October	53	3	9	.....	7	72
November	74	4	14	2	11	105
December	95	7	27	2	12	143
Total	615	53	160	28	142	998

[No. 2.] COLLECTIONS, 1882.

MONTHS.	Tax Fee.	Fumigation.	Other,	TOTAL.
January	$1285 00	.....	.....	$1285 00
February	930 00	.....	.....	930 00
March	1372 50	.....	.....	1372 50
April	1012 50	.....	.....	1012 50
May	940 00	317 00	5 00	1262 00
June	737 50	408 00	5 00	1150 50
July	572 50	154 00	.....	726 50
August	1502 50	262 00	.....	1774 50
September	1870 00	512 00	5 00	2387 00
October	1522 50	537 00	.....	2059 50
November	2102 50	105 00	.....	2207 50
December	3139 00	.....	.....	3139 00
Total	$16986 50	$2305 00	$15 00	$19306 50

No. 3. VESSELS QUARANTINED, 1882

	Rio Janeiro.	Havana.	Vera Cruz.	Minatitlan.	Colon.	Tampico.	Martinique.	St. Iago de Cuba.	Brazos St. Iago.	Pernambuco.	St. Thomas.	St. Ana, Mexico.	Pensacola.	Corpus Chrisci.	Porto Rico	Bahia.	Total.
May	1	7	7	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	..	..	..	16
June	3	9	6	.....	3	1	.....	.....	.....	.....	.....	.....	.....	..	..	..	22
July	..	6	1	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	..	..	..	8
August	..	4	4	.....	2	.....	1	1	.....	.....	.....	.....	.....	..	..	..	12
September	2	5	3	1	3	.....	2	1	2	2	1	3	1	1	1	..	28
October	2	13	4	.....	2	1	2	.....	.....	.....	1	.....	.....	..	..	1	26
November	..	5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	..	..	..	5
Total	8	49	25	2	11	2	5	2	2	2	2	3	1	1	1	1	117

[No. 4] VESSELS ARRIVING WITH SICK ON BOARD, 1882.

DATE.	NAME.	FROM.	No. of days on passage.	No. of sick.	DISEASE.	Removed to hospital.	Died.	Post-mortem examination.	REMARKS.
May 8....	Sch. J. G. Whipple	Minatitlan	9	6	Mal. fever.	0	1	1	.....
June 21..	Sch. Tomas	Tampico..	5	4	Mal. fever.	0	1	1	.....
Sept. 3...	Sch. Laura Lewis	Brazos St. Jago.	8	2	Mal fever.	0	1	....	Chronic.
Sept. 29..	Sh. J. C. Robertson	Colon	18	3	Mal. fever.	0	0	....	Chronic.
Oct 4....	S. S. Prinz George	Martinique	8	4	Mal. fever.	0	0	....	Occurred while in quarantine.
Oct. 15...	S S. Explorer...	Vera Cruz.....	3	1	Mal. fever.	0	0	....	Chronic.
Nov. 16..	S. S. Alava	Cienfuegos.....	3	1	Mal. fever.	0	0	....	Died in New Orleans.

REPORT OF W. H. CARSON M. D., RESIDENT QUARANTINE PHYSICIAN, RIGOLETS STATION, FORT PIKE, LA., 1882.

To the Honorable, the President and Members of the Board of Health, State of Louisiana:

Gentlemen—I have the honor to report the following duty performed at the above named quarantine station, from the first of May to September 14, 1882:

This station was promptty opened on the first of May last, by the Board of Health of the State of Louisiana, in compliance with the proclamation of His Excellency, S. D. McEnery, Governor of the State of Louisiana.

Every detail in the furnishing of the station was looked to, and the instructions given by the honorable President, Joseph Jones, M. D., fully attended to and carried out.

The station was thoroughly equipped as to its boarding and inspection appliances, and in every way prepared for any requirements incidental to a quarantine station.

The total number of vessels (in the great majority schooners) noted, undergoing boarding and inspection. amounted to (933) nine hundred and thirty-three.

During the period of inspection no case of sickness of any nature was observed, nor was there any other feature creating or requiring any concern or unusual attention.

I may here mention that, during the quarantine season, I was repeatedly notified and forewarned by telegram from President Jones of the approach of suspicious vessels.

However, none were discovered to be infected, and they were released after undergoing rigid inspection, fumigation, the other disinfective measures and ten days' detention, under daily observation.

The question in regard to quarantine fees, the difficulty and uncertainty of collection, still require due consideration and solution; my views, as expressed in my annual report of 1881, I yet entertain, and from subsequent experience know of no reason to change or modify them.

I again recall attention to the increased importance of the station, and its removal to some locality in the immediate neighboorhood of the railroad crossing of the Rigolets, so as to inspect and control communication both by rail and water.

Respectfully submitted,

W. H. CARSON, M. D., Quarantine Physician,
Rigolets Quarantine Station, Louisiana.

REPORT OF N. L. SIGUR, M. D., RESIDENT PHYSICIAN ATCHAFALAYA QUARANTINE STATION, LOUISIANA, 1882.

MORGAN CITY, January 19, 1882.

To the President and Members of the State Board of Health, New Orleans, La.:

Gentlemen—I have the honor to forward you my report for the operations at this station during the session of 1882.

It is meet that I should first speak of the overflow which, last year, afflicted this entire country, and of its influence here over the public health and navigation. I shall call your attention to the fact that, whilst the flood lasted, and even after its withdrawal, few deaths occurred from disease; these were chiefly the result of accidents, such as drowning. It was only two or three months afterward that sickness commenced to prevail; dysentery and malarial fevers became rife, and the death-rate among infants from malnutrition and intestinal derangements grew unusually large. Yellow fever, however, failed to put in its appearance, showing that something else besides the great revolutions of nature is requisite for its production.

I shall not mention the ravages perpetrated by the waters, nor the houses, cattle and even human beings that they have carried away. This, however interesting, would perhaps appear foreign to my subject. Suffice it, therefore, for me to state that owing to the removal of the Morgan wharf and the cessation of railroad travel, the steamships of the line did not visit this place before May 28. The return of schooners was even more retarded; the current proved, for many weeks after, too strong to be stemmed. In addition, their trade, which consisted for most part of timber and cross-ties, had suffered considerably. These had been washed away in great quantities. This accounts for the notable reduction in the number of steamships, schooners and passengers as compared with the preceding year.

In making a summary of all my weekly rolls, I find that, during the whole past season, one hundred and twenty-nine steamships, fifty-nine schooners and six thousand eight hundred and sixty-three passengers have come under my observation. Out of these ships, ten hailed from infected ports, two were from Vera Cruz, the others from Corpus Christi. I have dealt with them all, according as your instructions and circumstances required. Whenever they allowed me some margin, I always made it a point to be guided by expediency, and to comply with the spirit of the law, rather than with its letter. I must congratulate myself upon this course of conduct, since it has been my good fortune, so far, to give satisfaction to all without ceasing, at the same time, to preserve the public health.

I am, very respectfully, your obedeint servant,

N. L. SIGUR, M. D.,
Quarantine Officer, Atchafalaya Station, for 1882.

OUTLINE OF THE QUARANTINE OPERATIONS OF THE BOARD OF HEALTH OF THE STATE OF LOUISIANA FOR 1883. TRANSFER OF QUARANTINE STATION FROM FORT PIKE TO RABBIT ISLAND, EAST RIGOLETS, BY THE BOARD OF HEALTH OF THE STATE OF LOUISIANA.

By a rigid system of economy, and by husbanding the resources, the Board of Health was able in the month of April, 1883, to empower the President to erect the necessary buildings, wharfs and boat-house on Rabbit Island, and to transfer the Quarantine Station to this locality from Fort Pike.

The total expenditures by the Board of Health at the Rigolets Quurantine Station during the quarantine season of 1883, extending from 1 May, to 1 November, was $3762 64, whilst the receipts were only $238, 50.

In response to the request of the President, the Finance Committee, composed of Hon. I. N. Marks, Colonel A. W. Bosworth and Hon. Ed. Booth, visited and inspected the Louisiana Quarantine Station on Rabbit Island, and reported as follows :

To the Board of Health, State of Louisiana :

Gentlemen—The Finance Committee, in company with the President, have visited the quarantine station at the Rigolets.

They inspected the buildings recently erected, and find them well constructed and conveniently adapted for the purposes intended.

The new site at Rabbit Island (United States Government property) is far superior to the old one at Fort Pike, commanding, as it does, both the Rigolets, East Louisiana and the railroad. The money spent upon this work has been well expended.

I. N. MARKS, Chairman,
A. W. BOSWORTH,
ED. BOOTH.

NEW ORLEANS, June 14, 1883.

QUARANTINE.

OFFICE BOARD OF HEALTH,
New Orleans, April 18, 1883.

Captains and masters of vessels, shippers and ship agents, and all parties concerned, are hereby notified that, in accordance with official action of the Board of Health of the State of Louisiana, the quarantine station has been removed from Fort Pike to Rabbit Island, East Rigolets. After the first of May, 1883, vessels entering East and West Pearl Rivers and Rigolets will report at Louisiana Quarantine Station on Rabbit Island, East Rigolets.

(Signed) JOSEPH JONES, M. D.,
President Board of Health, State of Louisiana.

QUARANTINE PROCLAMATION, BY SAMUEL DOUGLAS McENERY, GOVERNOR OF LOUISIANA.

EXECUTIVE DEPARTMENT, STATE OF LOUISIANA.

Whereas, On the eighth day of March, 1883, the Board of Health of the State of Louisiana did request the Governor of the State to issue his annual proclamation of quarantine, and did advise in regard to the terms and conditions of the same. Now, therefore, in accordance with law, and upon the recommendation of said Board of Health, I hereby issue my proclamation that quarantine take effect from and after the first day of May, 1883, with the following specifications :

All vessels, together with their crews, passengers and cargoes, arriving at the several quarantine stations of the State from the Mexican ports of Matamoras, Tampico, Tuxpan, Vera Cruz and Minatitlan, from all ports on the islands of Cuba, Hayti or San Domingo, Porto Rico and Jamaica, and from the Brazilian ports, Rio de Janeiro, Bahia and Pernambuco, to be detained ten full days, and the vessels and cargoes to undergo cleansing and disinfection.

Also, that vessels from other West Indian Islands and from ports along the Isthmus of Panama and the coast of South America as far south as Brazil be subjected to inspection and such cleansing, disinfection and detention as the Board of Health may direct; particular reference being had to the Islands of Barbadoes, St. Thomas, Martinique, Guade-

oupe and Trinidad, and to the ports of Colon, Carthagena, Savanilla, Baranquilla, La Guayra, Georgetown, Cayenne and Paramaribo.

The quarantine officers at the several stations are specially charged and directed to enforce strictly the execution of this proclamation, and the Board of Health is requested to prosecute vigorously all violations of the same, or of the quarantine laws of the State.

Given under my hand and the seal of the State of Louisiana, at the city of Baton Rouge, this fourth day of April, 1883.

(Signed) S. D. McENERY.

[SEAL].

By the Governor.

OSCAR ARROYO, Assistant Secretary of State.

PROTECTION OF NEW ORLEANS FROM THE INTRODUCTION OF FOREIGN PESTILENCE, THROUGH EAST PEARL RIVER AND BY WAY OF PEARLINGTON, MISSISSIPPI.

In accordance with the formal resolution of the Board of Health, Dr. William H. Carson was appointed Quarantine Inspector at English Lookout, on the fifteenth of May, 1883:

OFFICE BOARD OF HEALTH, STATE OF LOUISIANA,
NEW ORLEANS, May 14, 1883.

In accordance with the action of the Board of Health at the last regular meeting on the tenth of May, 1883, Dr. William Hunter Carson is appointed Quarantine Inspector at Lookout Station, Parish of Orleans, La., and will be respected and obeyed accordingly.

Dr. Carson will execute the following duties, in obedience to the direction and in accordance with the powers of the Board of Health, State of Louisiana:

1. Boarding and inspection of all vessels entering Lookout.
2. All vessels from infected ports must be directed to report to the Louisiana Quarantine Station, on Rabbit Island, Rigolets
3. Dr. Carson will report all violations of the Quarantine Laws of Louisiana to the President of the Board of Health. He will also communicate all facts of importance relating to vessels from infected ports included in the Governor's Proclamation, to Dr. Adams, resident quarantine officer at Rigolets.
4. Dr. Carson will report promptly to the President of the Board of Health the entrance of a vessel or vessels from an infected port into the waters of Mississippi.
5. Dr. Carson will also hold supervision over the railroad trains, and allow no passengers or baggage from an infected port to enter Louisiana.

(Signed) JOSEPH JONES, M. D.,
President Board of Health, State of Louisiana.

OFFICE BOARD OF HEALTH, STATE OF LOUISIANA,
NEW ORLEANS, May 14, 1883.

Capt. Ward, United States Customhouse, Lookout, La,:

Dear Sir—The bearer, Dr. William Hunter Carson, has been appointed Quarantine Inspector at Lookout Station, and I would respectfully request that you extend to him the same kind courtesy exhibited to the State health officer during the quarantine against Pensacola in 1882.

The object is to exclude foreign pestilence, and the quarantine service will be facilitated if the Customhouse officer would permit Dr. Carson to accompany him in his boat in boarding vessels.

Respectfully, your obedient servant, JOSEPH JONES, M. D.,
President Board of Health, State of Lonisiana.

OFFICE BOARD OF HEALTH, STATE OF LOUISIANA,
NEW ORLEANS, May 14, 1883.

J. T. Harahan, Superintendent Louisville and Nashville Railroad:

Dear Sir—In order to perfect, as far as practicable, the quarantine system of Louisiana, and guard all the avenues from the approach of foreign pestilence, the Board of Health have assigned the bearer, Dr. William Hunter Carson, to Point Lookout.

I respectfully request that the railroad, which you represent with so much ability, grant Dr. Carson, a free pass between Mobile and New Orleans.

It may be necessary to order an investigation at any time, and at any point on your road.

Respectfully, your obedient servant, JOSEPH JONES, M. D.,
President Board of Health, State of Louisiana.

[From Regular Monthly Meeting Board of Health, May 10, 1883].

Dr. Jones stated that he thought an officer should be placed at Lookout Station, as vessels from infected ports passed that station on their way to Pearlington. He thought the Board of Health of Louisiana should co-operate with the State of Mississippi in maintaining quarantine, and to that end communicated to the authorities of the State of Mississippi that the Board of Health of Louisiana would permit infected vessels to come to Rabbit Island Station, and there be disinfected before proceeding to Pearlington.

The Board of Health having, by formal resolution, authorized the President to confer with the health authorities of Mississippi most nearly connected with the quarantine system of Louisiana, the following correspondence will give the results of his visit and personal interview with the President and members of the Board of Health of Hancock county, Miss., on the sixteenth of May, 1883.

BAY ST. LOUIS, MISS., May 13, 1883.

S. S. Herrick, M. D., Secretary Louisiana State Board of Health:

Dear Doctor—Yours of the twelfth instant, informing me of action of your board, and that Dr Joseph Jones, President of the same, would visit the bay, etc., was received this morning. You will please state to Dr. Jones that I have called a meeting of our board for Wednesday next, sixteenth instant, and would be pleased if he could so time his visit as to be present. Time of meeting 7 o'clock p. m., at courthouse.

I will be pleased to meet Dr. Jones and confer with him in regard to the English Lookout Quarantine matter, and I hope that some mutual understanding can be arrived at, as I consider it the only way, successfully, to protect your city and Pearl River from infection by that channel, from any vessel which may endeavor to avoid quarantine elsewhere.

Will be pleased to meet you when you visit the bay.

Yours truly,

A. PARKER CHAMPLIN,
President Hancock County Board of Health.

COURTHOUSE, HANCOCK COUNTY, MISSISSIPPI.
BAY ST. LOUIS, May 16, 1883.

By the Board of Health of said County—

Resolved, That the propositions of Dr. Joseph Jones, President of the Louisiana State Board of Health, be and the same are hereby adopted, as follows: "The Board of Health of Louisiana desires to co-operate with the Hancock County Board of Health, in the event of vessels coming from infected ports and entering the waters of East Pearl River, with the design of loading lumber at Pearlington; that they be requested to undergo inspection and disinfection at the Quarantine Station at East Rigolets. The object of this regulation would be to give security to New Orleans in her intercourse with Pearlington or any point along the Gulf coast in Hancock County." Provided there is no expense to vessel for such service.

A true copy.

[Signed]

J. A. MEAD,
Secretary Hancock County Board of Health.

The complete record of the labors of the Board of Health of the State of Louisiana, in the operations which successfully excluded yellow fever from entering New Orleans from the Mississippi Gulf coast, would cover much more space than could be devoted to this section of the quarantine of 1883; the following official orders and correspondence will, however, illustrate the character of the operations of this branch of the service:

NEW ORLEANS, June 29, 1883.

Messrs. Poitevent & Favre, Pearlington, Miss.

Gentlemen—A communication from the President of the Hancock County Board of Health informs us that a vessel presumed to be infected is now lying at Ship Island, and is about to receive a cargo of lumber, by means or lighters, from the Pearl River Mills. At its meeting last night this Board agreed to co-operate with the Hancock County Board, through its officers at the Rigolets and English Lookout, and will, at the request of that Board, disinfect and cleanse any lighters which may have communicated with vessels from infected ports.

It is proper to add that this Board feels bound to use all the means in its power for the protection of our city and State from foreign infection, and that any laxity along the Mississippi coast or on Pearl River will compel us to observe special measures of self-protection in those directions.

Respectfully, your obedient servant,

JOSEPH JONES, M. D.,
President Board of Health.

NEW ORLEANS, June 29, 1883.

Dr. W. H. Carson, Quarantine Inspector, English Lookout:

Dear Sir—This Board has agreed to assist the Hancock (Miss.) County Board of Health in the cleansing and disinfection of vessels from infected ports, and particularly of lighters communicating with such vessels. You are therefore requested to perform this duty whenever required by these authorities. Dr. Adams will send you all the materials needed for this purpose—sulphur, copperas, carbolic acid, and two iron pots.

You are also requested to exercise the utmost vigilance with reference to all such vessels, both seagoing and lighters, especially as we have intelligence that there is now a vessel at Ship Island from an infected port, which has come for a cargo of lumber, to be received by lighters. This vessel has a case of yellow fever on board.

Respectfully,

JOSEPH JONES, M. D.,
President Board of Health.

NEW ORLEANS, July 2, 1883.

A. Parker Champlin, M. D., President Hancock County Board of Health, Bay St. Louis, Mississippi:

Dear Doctor—Enclosed please find copy of telegram from J. B. Hamilton, Surgeon General, United States Marine Hospital Service; also telegrams from the Board of Health of the State of Louisiana, addressed to Messrs. Poitevent & Favre, of Pearlington, Dr. Carson, Lookout Station; J. W. Adams, M. D., Quarantine Physician, Rabbit Island, Rigolet Station; also copy of letter of Messrs. Poivevent & Favre, of June 30.

Please furnish this Board with prompt information relating to occurrence of yellow fever in shipping.

We desire full and specific information in reference to the following points:

In whose charge is the quarantine at Ship Island?

Has the Mississippi State Board of Health any representative on Ship and Round Islands?

Who are the health officers or quarantiue physicians at Pass Christian, Biloxi, Mississippi City, Ocean Springs and Pascagoula?

Have these places any efficient quarantine regulations?

In this emergency, when the coast of Mississippi is seriously threatened with an invasion of yellow fever, the Board of Health of the State of Louisiana desires to co-operate freely and efficiently with the Health authorities of Mississippi, for the exclusion of foreign pestilence.

Respectfully, your obedient servant,

JOSEPH JONES, M. D.,
President Board of Health.

NEW ORLEANS, July 2, 1883.

Poitevent & Favre, Pearlington, Miss.:

Your letter of thirtieth received. If you allow your lighters to communicate with infected vessels and with vessels from infected ports, and refuse to conform to the agreement between the Louisiana and Hancock County Boards of Health of May 16, this Board of Health will institute quarantine against Pearlington. The following telegram has been sent to Drs. Carson and Adams: Norwegian bark Alma, with two cases of yellow fever, sent from Pascagoula to Ship Island on June 27. Inspect all vessels from Pascagoula and Ship Island; if they have communicated with any infected vessels, direct them to proceed to Rigolets Quarantine Station Investigate all facts as to the existence of yellow fever at Pascagoula or Ship Island, or any point on the coast of Mississippi, and report immediately to the Board of Health.

JOSEPH JONES, M. D.,
President Board of Health.

Dr. Adams, Rigolets Quarantine Station; Dr. Carson, Lookout Station, La.:

Norwegian bark Alma, sent from Pascagoula to Ship Island with two cases of yellow fever June 27. Inspect all vessels from Pascagoula and Ship Island; if they have communicated with any infected vessel, direct them to proceed to Rigolets Station. Investigate all facts as to the existence of yellow fever at Ship Island or Pascagoula or any point on the coast of Mississippi, and report immediatly to the Board of Health.

(Signed) JOSEPH JONES, M. D., President Board of Health.
EDWARD BOOTH.
I. N. MARKS.
G. K. PRATT, M. D.,
F. FORMENTO, M. D.

NEW ORLEANS, July 7, 1883.

Wm. H. Carson, M. D., Quarantine Inspector, English Lookout:

Sir—I have ordered Sanitary Officers Allen and Bohuer to report for duty at English Lookout, under the following instructions.

1. To aid Dr. Wm. H. Carson in the execution of the following labors ordered by the board.

(a). Fumigation of vessels.

(b). Inspection of all trains passing from Mississippi into Louisiana.

The inspectors should in order to avoid interrupting trains proceed on the out-bound train as far as necessary say to Pascagoula, Biloxi or Bay St. Louis, and return with the train bound for New Orleans and inspect the passengers.

(c). Where passengers have been subjected to proper quarantine detentions at the regular Quarantine Stations and their baggage fumigated, they may be allowed to proceed to New Orleans at the discretion of the Quarantine Inspector: said discretion being exercised as to the efficiency of the quarantine and the actual state of health of the passengers.

(d.) The Board of Health of the State of Louisiana demand that the Inspector at English Lookout should exercise the utmost vigilance, and allow no passenger or seaman to enter the State of Louisiana who has left an infected port, in any vessel, whether infected or not, without having been subjected to quarantine.

(e.) Furnish this Board of Health with written weekly and if necessary daily reports: also telegraph at once every evasion of quarantine and every point of interest.

Respectfully,

JOSEPH JONES, M. D.,
President Board of Health, State of Louisiana.

ERECTION OF BUILDINGS, WHARF AND HOUSE AT ATCHAFALAYA QUARANTINE STATION BY THE BOARD OF HEALTH OF THE STATE OF LOUISIANA.

In accordance with the formal resolutions of the Board of Health, the President visited Morgan City, and, in company with the quarantine physician, Dr. J. H. P. Wise, inspected the quarantine grounds and agreed upon the neecssary plans for quarantine buildings.

The said buildings were erected in accordance with the specifications, and, after being duly accepted by the President, were paid for by the Board of Health, as will be seen by the following receipt:

MORGAN CITY, La., May 5, 1883.

State Board of Health

To Drews' Planing Mill, Dr.

(Gus Drews, Proprietor.)

To building wharf and house at Atchafalaya Quarantine Station	$525 00
To 1 cistern	30 00
To 1 sign	4 00
To 1 flagstaff	3 00
	$562 00

Paid.

(Signed) GUS DREWS.

THE UNITED STATES HOSPITAL SERVICE INDORSED BY THE BOARD OF HEALTH OF THE STATE OF LOUISIANA—RESOLUTIONS BY HON. I. N. MARKS.

The Board of Health held a special meeting at their rooms, corner of Royal and St. Louis steeets, on Thursday evening, April 19, at 7 o'clock, with the President, Dr. Joseph Jones, in the chair, and Messrs. Bosworth, Booth, Faget, Formento, Marks, Pratt and Von Gohren present.

The President stated that the meeting had been called at the request of the Chairman of the Finance Committee.

Mr. Marks, chairman of the committee, stated that the object of the meeting was to bring before it a matter which was thought to be of sufficient importance to call the Board together. The Mississippi Valley Sanitary Council, in its late session at Jackson, had manifested a great desire, and had made strenuous efforts to secure possession, for the National Board of Health or some other body in alliance with it, of the sum of $100,000 appropriated by Congress, and now in the hands of the Secretary of the Treasury at Washington, to be used for the suppression of epidemic contagious diseases.

This Board, he said, was only interested in having the Mississippi Valley protected from the ravages of disease and as far as the handling of the Congressional appropriation is concerned, it was desired to see it placed in the care of those who will use it with due honesty and efficiency for the great objects to be attained. There is a service of the government which can be most safely and fitly intrusted with these important duties, and it was desirable that this Board should put itself on record as indorsing that service. Therefore, he offered the following:

Whereas, the Congress of the United States, at its last session, placed at the disposal of the President the sum of $100,000, to be used under his direction for the suppression of epidemic contagious diseases: and

Whereas, it is of paramount importance, with a view to the protection of the sanitary condition of the country, that the munificent appropriation of Congress be disbursed, if the exigency arises, through that branch of the public service recognized for its age, experience, economy and practical utility, and through which the representatives of the people designed and intended it should be disseminated;

Be it therefore resolved, That the State Board of Health of Louisiana respectfully but earnestly request the President of the United States to place at the disposition of the Marine Hospital Service of the government the entire appropriation of Congress, in the event that its use should unfortunately become necessary.

Resolved, That the State Board of Health of Louisiana unequivocally indorse the Marine Hospital Service, and points with pride and satisfaction to its good record last summer in Texas, to the liberal arrangement it made for the protection of Pensacola, and the practical experience and economical administration of its important functions.

Resolved, That the President of the United States can rest assured that the sentiments contained in these resolutions are a true reflex of the public opinion of the people of Louisiana.

Resolved, That the President of this board transmit to his Excellency the President of the United States a copy of these resolutions.

They were unanimously adopted.

The President reported that on the thirteenth instant, he had received notice from Dr. Finney, quarantine officer at the Mississippi Station, that the three-masted schooner Ajax had passed the Quarantine Station without stopping for examination. The President has caused the captain to be arrested and the vessel to answer for the violation of the law. The captain, Northrup, and the agents, Messrs. A. K. Miller & Co., appeared, and the captain made oath that he had never before entered the Mississippi River, but he had sailed up to Port Eads on the twelveth instant, and had signaled for a pilot and towboat, but getting none, and having a fair wind, he sailed up the river to a point within twenty-five miles of this city, when the wind changed and he came to anchor. He passed the Quarantine Station because he knew nothing about it, but knowing from the papers that the quarantine season did not begin until the first of May, he had no idea of violating any law or regulation of the State, his vessel having sailed direct from New York, and touching at no point on the way.

The matter having been considered by the board, the fine in such case was remitted on the payment of the usual costs of court.

A letter from Dr. Wise, quarantine officer at the Atchafalaya Station, reports the construction of the new wharf and new buildings there as progressing favorably. Like oeports were received from the work on the improvements at the East Rigolets Station.

The President reported that in obedience to a resolution of the Board, in company with Dr. Formento and Mr. Booth, he had called on Mayor Behan, in reference to the need of the city for more sanitary police officers. The Mayor had received them courteously, and had placed at the disposal of the board sanitary policemen, who, with those already on duty, make up a total of twenty on inspection duty with the several District Inspectors.

After some general discussion, the board adjourned.

OFFICE BOARD OF HEALTH, STATE OF LOUISIANA,
NEW ORLEANS, April 20, 1882.

His Excellency Chester A. Arthur, President United States of America, Washington, D. C.:

Dear Sir—I have the honor to enclose resolutions unanimously adopted by the Board of Health of the State of Louisiana, at the regular meeting held April 19, 1883.

With great respect, your obedient servant,
JOSEPH JONES, M. D., President Board of Health, State of Louisiana.

TREASURY DEPARTMENT, OFFICE SUPERVISING SURGEON-GENERAL,
U. S. MARINE HOSPITAL SERVICE, WASHINGTON, May 24, 1883.

Joseph Jones, M. D. President State Board of Health of Louisiana, New Orleans, La.:

Dear Sir—I have the honor to acknowledge the receipt of the resolutions passed by the Board of Health of the State of Louisiana complimentary to this service, under date of April 19, 1883, and to respectfully tender you the thanks of the Bureau for the same. The courtesy shown this service by the Board would long ago have been acknowledged, but almost every day it was supposed that a decision would be made in the matter of the epidemic appropriation, which was the subject of the resolutions, and I am now happy to inform you that the disposition of the fund for the prevention of the spread of epidemic diseases has been placed in the direction indicated by your Board.

Thanking you for the kindness and hearty support you have given this service, and on behalf of the service assuring you of its sympathy, I am,

Very respectfully, your obedient servant,
JOHN B. HAMILTON,
Surgeon-General, M. H. S.

The attention of His Excellency, Governor S. D, McEnery, and of the General Assembly of Louisiana, was directed during the session of 1882 to the important subject of quarantine, and more especially to the resistance to the quarantine laws of the State by C. A. Whitney, President of the New Orleans Auxiliary Sanitary Association, representing Morgan's Louisiana and Texas Railroad Company, and by certain other ship-owners, shippers, and ship agents and brokers.

Great service was rendered the State by the firm support yielded by the General Assembly to the quarantine laws of Louisiana, and their enemies received a well merited and severe rebuke by the passage of Act No. 69, "To fix and regulate quarantine charges at the Mississippi River Station, to establish a lien and privilege on vessels inspected in favor of the Board of Health for the same, and to provide for their enforcement and collection by provisional seizure."

Had the enemies of the Board of Health succeeded in convincing the Legislature that this bill, introduced into the House of Representatives of Louisiana by the honorable Chairman of the Committee on Health and Quarantine, "plainly and palpably violates at least two provisions of the United States Constitution, and in its tendency to prejudice our growing commerce is materially subversive of the great interests of Louisiana," the city of New Orleans, the State of Louisiana, and the entire Mississippi Valley would have been thrown open to the ravages of yellow fever.

The representatives of the people assembled in Congress manifested their want of confidence in the National Board of Health, and provided no adequate means for the protection from foreign pestilence of the Atlantic and Gulf coasts; and if the General Assembly had not defeated the designs of those immediately interested in the shipping of the port of New Orleans, and their representatives in the daily press, the scenes of suffering, pestilence and death witnessed in Pensacola on the East, and Brownsville on the West, would have been enacted upon a dreadful scale in New Orleans.

The decision of Judge Munroe, in the case of the Morgan's Louisiana and Texas Railroad Company against the Board of Health, No. 7001 of the docket of the Civil District Court for the Parish of Orleans, enjoining the board from collecting any fees under the quarantine laws of the State of Louisiana, practically declared the quarantine system of Louisiana, established by the act of 1885, *illegal, unconstitutional, and without any practical benefit to commerce.*

An immediate appeal to the Supreme Court of the State has been taken by the Board of Health and the Honorable Judge E. D. White and Hon. H. N. Ogden have been employed as additional counsel in this case.

As President of the Board of Health of the State of Louisiana, I have endeavored impartially to execute the quarantine laws, and have exerted every lawful means for the preservation of the city and State from the introduction of foreign pestilence.

EXCLUSION OF VESSELS INFECTED WITH YELLOW FEVER, AND VESSELS FROM PORTS IN WHICH YELLOW FEVER WAS PREVAILING FROM THE WATERS OF LOUISIANA.

The efforts of the Board of Health of the State of Louisiana, during the year 1883, which resulted in the exclusion of yellow fever from the State, and from the Mississippi Valley, are worthy of record.

It will be seen from the following record, that although yellow fever was brought into the Mississippi River and cases landed at the Mississippi Quarantine Station on the eighth of July, and then subsequently other cases were brought by infected ships from Vera Cruz, nevertheless the city of New Orleans, the State of Louisiana, and the entire Mississippi Valley were protected by the efforts of the Board of Health.

MISSISSIPPI RIVER QUARANTINE, LA.,
July 10, 1883.

To Dr. Joseph Jones, President Board of Health, New Orleans, La.:

Sir—I have the honor to report that the Swedish bark Berna, from Vera Cruz, arrived at this station on the morning of Sunday, July 8, 1883, entering the Mississippi River by way of S. W. Pass, having on board four cases of yellow fever.

The history of the vessel is as follows: Arrived in the harbor of Vera Cruz, from Cardiff, on April 26, 1883, with the following crew:

1. Nyberg, captain, Swede.
2. Hugberg, mate, Swede.
3. Heick, second mate, Swede.
4. Hanson, carpenter, Norwegian.
5. Bergren, cook, Norwegian.
6. Larsen, steward, Dane.
7. Rosenbloom, seaman, Norwegian.
8. Magnersen, seaman, Norwegian.
9. Sedenwald, seaman, Swede.
10. Abramson, seaman, Swede.
11. Halberg, seaman, Swede.
12. Person, seaman, Swede.

Mrs. Nyberg, wife of captain, and Magnus Nyberg, his son; being in all fourteen persons.

All remained well, with the exception of some mild intestinal affections, until June 20, when serious illness occurred, necesitating the presence of physician on board. The following list will show the dates of illness, and, as far as the captain knows, the nature of the disease:

1. Person, June 20, sick three days, fever, now on board.
2. M. Nyberg, June 21, sick three days, fever, black vomit, died in Vera Cruz.
3. Johansen, June 21, sick four days, fever, black vomit, died in Vera Cruz.
4. Rosenbloom, June 22, sick four days, left in hospital in Vera Cruz.
5. Sedenwald, June 24, sick three days, died in Vera Cruz.
6. Capt. Nyberg, June 24, sick five and one-half days, now on board, well.
7. Mate Hugberg, June 25, sick four and one-half days, now on board, with yellow fever
8. Manguersen, June 26, left in hospital in Vera Cruz.
9. Larsen, June 29, now on board, with yellow fever.
10. Mrs. Nyberg, July 2, now on board, with yellow fever.
11. Halberg, July 2, now on board, with yellow fever, convalescent.
12. Lagagren, July 2, sick three days, now on board, well.
13. Hugberg, July 7, now on board, sick with yellow fever.

Thus of the original crew, all have been sick, either in Vera Cruz or since leaving there, with the exception of Bergren, the cook, and Ambramson, seaman. The latter was indisposed in Vera Cruz, but for only a few hours. Lagagren joined the ship the day before she left Vera Cruz (June 29), but had been sick in the hospital at Vera Cruz for three days, and was said to have had fever. The captain supplied the places of his absent men by shipping Lagagren and four negroes, and started for Frontera on June 29. Sickness overcoming some of the crew, he changed his course for Pensacola, but finally put in to Southwest Pass, and was immediately towed up to this station, arriving here on the tenth day after leaving Vera Cruz, having on board

Larsen, in the tenth day of sickness.
Mrs. Nyberg, in the seventh day of sickness.
Halberg, in the seventh day of sickness; convalescent.
Hugberg, in the third day of sickness.

All the rest well. Mrs. Nyberg and Halberg entering the convalescent stage, and Hugberg, so far, progressing favorably toward recovery.

I have the honor to be your obedient servant,

(Signed) J. F. FINNEY, M. D., Resident Physician.

THE BARK BERNA—STATEMENT BY DR. JONES CORRECTING SOME FALSE STATEMENTS.

NEW ORLEANS. July 14, 1882.

Editor of the New Orleans Picayune:

Dear Sir—I would not trespass upon your valuable time, so fully and intelligently devoted to the advancement of the best interests of our State, to notice malicious and scurrilous attacks on personal grounds; but the editorial in the City Item of July 13, contains statements of a nature to be used by those unacquainted with the character of their author, and by the enemies of Louisiana in Chicago, Memphis, Vicksburg and other places in Illinois, Tennessee and Mississippi, for the purpose of injuring the sanitary and commercial reputaaion of New Orleans.

The Item, in an editorial of the thirteenth instant, states that "On Friday, July 6, the Swedish bark Bernia, nine days out from Vera Cruz, entered the river at Southwest Pass, having lost a number of the crew by yellow fever, and with four men then sick and several others convalescent. She was taken in tow by one of the tugs of the Ocean Line and brought up to Quarantine. * * *

"Her arrival in the river and her condition were promptly reported to Chicago on the sixth. A dispatch was immediately addressed from that city to Mr. E. K. Converse, and received by him on the seventh, asking if the reports were true. As he had heard nothing of them, he sent post-haste to the office of the Board of Health for information.

"Dr. Jones was absent as usual, and there was no one about who had heard the news, which had already traveled to Chicago many hours before.

"In a few days, however, the quarantine officials awoke to the fact that a fever infected ship had arrived; had been permitted to come up to quarantine, and some three days after her entry into Southwest Pass Dr. Jones fairly set to work issuing orders, as follows." * * * * * * *

The statement of the chief operator of the Ocean Towboat Telegraph Company, and of Hon. E. K. Converse, President of the New Orleans Produce Exchange, herewith inclosed, fully expose the infamous and scurrilous fabrications of the City Item.

With great respect and high esteem, truly yours, JOSEPH JONES, M. D.,

OCEAN TOWBOAT LINE TELEGRAPH SERVICE, NO. 199 COMMON STREET,
NEW ORLEANS, July 14, 1883.

I hereby certify that no dispatch relative to the arrival of the bark Berna at the mouth of the Mississippi River was received at this office until the seventh of July, 1883.

This is the only line communicating by electric telegraph from New Orleans to the mouth of the Mississippi River at Port Eads and Pilot Town.

Dr. Finney's telegram was received at this office on the eighth of July, and was transmitted to the President of the Board of Health on the evening of the eighth instant, and reached Dr. Joseph Jones after the closure of this office.

The statement in the City Item, of the thirteenth instant, is incorrect, as the Berna was not sighted at the Southwest Pass until the seventh of July, and the disease was reported as climatic fever.

No dispatch was received directly from the officers of the vessel, and no dispatch was sent from this office to Chicago.

The accompanying records from the books will give the dates of dispatches received concerning the Berna.

WILLIAM WHANN,
Chief Operator, Ocean Towboat Line Telegraph Company.

Extracts from record and books of Ocean Towboat Line Telegraph Service:

Southwest Pass, July 7, 9 a. m., 1883.—A bark (Berna) anchored to west of bar, with Jack for pilot.

THORP.

Port Eads, July 7.—Ella Andrews left at 2:30 p. m. to tow a bark (Berna) from Southwest Pass to Quarantine.

Southwest Pass, Jluy 7, 1882, 6 p. m.—Ella Andrews tewing bark Berna. Inside.

Mississippi Quarantine Station, July 8, 1883.—Ella Andrews arrived up at 1:30 a. m. with a bark (Berna) and anchored it.

NEW ORLEANS, July 14, 1882.

Dr. Joseph Jones:

Dear Sir—In reply to your inquiry, I received no dispatch from Chicago in relation to fever at all, nor in reference to any fever ship arriving at the mouths of Mississippi River. Reports of firms here from Chicago asking if yellow fever was prevailing in New Orleans, to which receivers of those dispatches replied, "City perfectly healthy." Upon suggestian of Director it was thought best that I should send dispatch over my signature as President of the Produce Exchange to Board of Trade, Chicago, denying the rumor. Before sending I tried to telephone you, asking the question, but finding Board of Health has no telephone, I sent to Mr. I. N. Marks, who informed me you had just left his office, remarking, "No yellow fever and even no malarial." Respectfully. E. K. CONVERSE.

MISSISSIPPI QUARANTINE, July 18, 1883.

To Dr. Joseph Jones, President Board of Health:

Steamship Buteshire arrived last night from Vera Cruz, where she had six cases of yellow fever, two of whom died there. She has had seven cases since, one of which died evening before last at sea. I removed three to the hospital this morning, one of whom will die this evening, the others are so far doing well. The Steamship Merchant arrived day before yesterday from Vera Cruz, having lost one of her crew at sea from yellow fever; everybody well since.

[Signed] J. F. FINNEY, Resident Physician.

Copy of telegram to Dr. Finney relative to the above:

NEW ORLEANS, July 18, 1882.

To Dr. F. Finney, Mississippi Quarantine Station:

Isolate, disinfectand fumigate steamships Buteshire and Merchant. Execute all rules and regulations of Board of Health. Hold these vessels subject the orders of the Board of Health.

Keep the Board advised by telegram.

[Signed] JOSEPH JONES, M. D.,
President Board of Health, State of Louisiana.

NEW ORLEANS, July 19, 1883.

His Excellency, Samuel Douglas McEnery, State Capital, Baton Rouge, La.:

Dear Sir—I have the honor to enclose for the consideration of your excellency the following:

1. Table L, Illustrating the Progress of Population in Louisiana During the Past Century, Including Census of 1880. Upon the data furnished in this letter must be based the calculations of vital and mortuary statistics in all the various parishes.

2. History and Theory of Quarantine—A Defence of the Quarantine Laws of Louisiana. This is the most vital and important of all questions with reference to the future prosperity of Louisiana.

3. Report of Conference Committee.

Two more vessels have arrived at Mississippi Quarantine Station, with yellow fever aboard. No case and no suspicious cases reported in this city. The situation, however, is *grave*. We are surrounded with yellow fever. Every vessel leaving Vera Cruz, Havana or Rio de Janeiro is more or less infected.

I shall advise the most stringent measures at the meeting of the Board of Health this night, and I will urge the passage of an ordinance prohibiting the passage of any vessel from any Quarantine station to the city of New Orleans. The cargoes can be sent down on lighters, and the vessels depart from the Quarantine Station.

Respectfully, JOSEPH JONES,
President Board of Health, State of Louisiana.

BOARD OF HEALTH PASS ADDITIONAL QUARANTINE REGULATIONS (JULY 19, 1883).

[Extract from minutes of Board of Health, regular meeting, evening of July 19, 1883.]

In conformity with previous action of the Board, the President announced that he had written to the Governor of the State representing the danger of any species of communication between quarantine stations and the surrounding country during the existence of yellow fever there, and in reply he had received the following:

EXECUTIVE DEPARTMENT, STATE OF LOUISIANA,
BATON ROUGE, La., July 18, 1883.

In accordance with a preamble and resolution of the Louisiana State Board of Health, adopted July 12, 1883, a copy of which is hereto annexed, and in consideration of the imminent danger that the city of New Orleans, the State of Louisiana, and the Mississippi Valley are now in from the arrival at quarantine of infected vessels, any unnecessary intercourse between the Mississippi Quarantine Station and other quarantine stations and the city of New Orleans is hereby strictly prohibited, and any permission for that purpose heretofore granted is hereby revoked. The laws of Louisiana and the rules and regulations of the Board of Health must be rigidly enforced and obeyed in this and all respects while danger continues. Intercourse between the quarantine stations and New Orleans must be under the exclusive control of the Board of Health. I invoke the vigilance and co-operation of all good citizens during this season of threatened calamity.

This order will be communicated by the Board of Health to all persons concerned therein. S. D. McENERY, Governor.

The following paper was then read. The President stated that it was an addition to the quarantine regulations of this port, providing increased precautions for the protection of the city and State against the invasion of yellow fever. It provides the complete exclusion of yellow fever ships from this port, and for the inspection of railways. Its proposition will be seen in detail as follows:

OFFICE BOARD OF HEALTH, STATE OF LOUISIANA.

Whereas, the Mexican ports of Matamoros, Tampico, Tuxpan, Vera Cruz and Minatitlan; all ports on the islands of Cuba, Hayti or San Domingo, Porto Rico and Jamaica, and the Brazilian ports of Rio de Janeiro, Bahia and Pernambuco are now infected with yellow fever; and

Whereas, no proper system is enforced to prevent the spread of the pestilence to the adjoining coast, many towns and villages of which are in hourly and daily unrestricted intercourse with said infected places, thus rendering them liable to momentary infection, even if the disease does not exist there now; and

Whereas, Asiatic cholera is now prevailing in certain ports of Asia and Africa, and reports of its spreading to European ports are prevalent, from which contagion might be introduced by vessels arriving at this port therefrom;

Whereas, Section 4, of the act of the State of Louisiana, approved March 18, 1858, and section 1 of the act of March 24, 1876, and section 7 of the act of April 20, 1877, vest in the Board of Health of the State of Louisiana the power and authority in cases of emergency to issue proclamation of quarantine and enforce the same, as against ports other than those named in the proclamation of his Excellency the Governor of Louisiana, the said board issues this its proclamation that quarantine take effect from the date hereof as against all places and towns adjacent and contiguous to the Mexican ports of Matamorous, Tampico, Tuxpan, Vera Cruz and Minatitlan, and the Brazilian ports Rio de Janeiro, Bahia and Pernambuco, and between which and said infected ports unrestricted intercourse is allowed and no rigid quarantine enforced, and all vessels coming therefrom shall be detained ten days and fumigated and cleansed as in cases of vessels coming from infected ports named.

Also, that all vessels or persons holding intercourse or having personal contact with any or all vessels, or the crew, passengers or inmates thereof, quarantined, at Ship Island or any other point on the Mississippi coast or any of the quarantine stations, shall not be allowed to enter the State of Louisiana unless detained at the nearest quarantine station for the space of ten days, and after being cleansed, fumigated and disinfected.

That all vessels or the crews thereof, actually infected with yellow fever or Asiatic cholera, arriving at the quarantine stations, will not be allowed under any circumstances to come to the city of New Orleans; but all such vessels having cargoes for or desiring to load from said port, will be required to discharge and receive cargo by lighters and barges, in conformity to such rules and regulations as may be from time to time adopted by the Board of Health.

That all railroads conveying passengers and freight in and to the city of New Orleans will be required to stop any and all trains at the quarantine stations established on their respective routes a sufficient length of time for proper inspection, under such rules and regulations as may be from time to time adopted by the Board of Health in relation thereto.

The quarantine officers at the several stations are specially charged and directed to enforce strictly the execution of this proclamation, and to exercise the utmost vigilance in exacting the strictest conformance thereto, and the Board of Health of the State of Louisiana will apply the most summary methods accorded by the laws of the State of Louisiana in punishing any violation or evasion of its provisions.

Issued by order of and under the seal of the Board of Health of the State of Louisiana, at the city of New Orleans, this ——— day of ———, 1883.

The paper excited some debate, Dr. Formento demanding non-intercourse with Vera Cruz and Havana as long as yellow fever exists at those places.

Mr. Marks moved that it be adopted.

Dr. Formento said it contained too much and not enough. It took in several countries as a whole. He thought a clause should be introduced requiring complete non-intercourse with Vera Cruz and Havana for the present. We cannot be too strict with these localities.

Mr. Booth said that non-intercourse was the refuge of fear.

He did not think such a step should be taken at once without consideration. Quarantine meant investigation. He said the vessels arriving had been notoriously bad so far as their condition was concerned. He could not give his consent to so severe a measure as non-intercourse. There are fair vessels coming from these ports. He favored the railroad quarantine spoken of in the proclamation. Railroads had brought every inland town to the borders of the sea.

Mr. Marks favored the adoption of the proclamation, and said the Board never before stood in such a responsible position. He strongly favored the clause preventing the coming to the city of vessels on which fever cases may have shown themselves. They should be kept at the quarantine station, and should discharge their cargoes there if the consignees so desired. Every avenue should be closed between the station and here to prevent contagion from entering. This might require a sacrifice on the part of commerce, but this was necessary.

Mr. Booth said the importance in a commercial point of view was very great. This proclamation would cut off certain vessels from our wharves. The Board had never gone so far before, and the community might not like so much extra zeal.

The proclamation was then unanimously adopted.

Mr. Booth urged that this board should execute the laws as it finds them. Quarantine does not mean non-intercourse, but restrained intercourse in the interests of public health.

The regulations were adopted as read.

Deputy Inspector of Shipping Dr. Stanhope Jones reported for May: vessels inspected 73, seamen 1636, passengers 271; total persons 1997.

Inspected for June—Vessels 65, seamen 1285, passengers 350, total persons 1625; vessels ten days in quarantine 34, vessels five days in quarantine 5, total vessels in quarantine 39

Inspected in July to 19th inst.—Vessels 34, seamen 609, total persons 703; vessels ten days in quarantine 7, vessels five days in quarantine 2, total 9.

Total vessels inspected 172, total seamen 3530, total passengers 705, total persons 4535; total vessels ten days in quarantine 41, total five days 7, total vessels that have passed through quarantine 48. He also reports the river front has been carefully watched, and all vessels arriving have been inspected. Vessels which have been detained in quarantine, on reaching this city are inspected, re-visited and watched. The condition of all such vessels showed upon arrival that they had been thoroughly fumigated, disinfected and cleaned at Quarantine Station.

He also reports that the basins have been constantly visited and the water craft therein inspected. All have been found in good condition. Up to July 19 there has not been in the shipping in port a single case of yellow fever or a suspicious case.

Under the head of new business, Dr. Formento called up his resolutions of co-operation, laid over from the last meeting. Amended by Mr. Marks they read as follows:

"Whereas, the combined efforts of all the citizens of New Orleans are absolutely necessary, in order to improve the sanitary condition of our city and render it both healthy and attractive.

"Whereas, hygienic measures of any magnitude cannot be accomplished without large sums of money, which in the present financial condition of our city and State Governments, must come from the voluntary contributions of the people.

"Whereas, the public good should be our sole aim, and to that end all partisan and technical considerations should be discarded.

"Whereas, it is of vital importance to perfect this coming season our system of local sanitation, in order that the vast concourse of people from all parts of the Union who will attend the World's Cotton Centennal Exhibition should be favorably impressed with the sanitary condition and general appearance of the city; be it therefore

Resolved, That the Board of Health of the State of Louisiana, responsible guardians of the public health, recognizes the absolute necessity of co-operation and concert of action with all citizens and associations having at heart the welfare and sanitary improvement of the city, and hereby expresses its desires and readiness to adopt any plan of action conducive to the public good, without, in any manner, delegating to others its constitutional authority; be it

Resolved, That to better secure such desirable co-operation and assistance the Conference Committee of this Board of Health be duly instructed to meet in consultation the Conference Committee of the Auxiliary Sanitary Association and all other volunteer organizations desirous of promoting the sanitary improvement of the city, whenever such association shall have endorsed and commend to public confidence the State Board of Health of Louisiana."

Dr. Formento resisted the amendment, and his motion to lay it on the table was defeated by the following vote: To lay on table—Formento and Van Gohren, 2; noes—Booth, Bosworth, Kells, Marks and Pratt, 5.

The debate on the resolutions which then came up for adoption was interesting. Mr. Marks showed that the Sanitary Association had invariably allied itself to bodies authorized and unauthorized, that had been habitual slanderers of this board, enemies of the quarantine system and Board of Health of the State of Louisiana, had always been received with open arms by the New Orleans Auxiliary Sanitary Association.

Mr. Booth contended that the Sanitary Association did not ask any co-operation from this board, and he did not see why the board, representing the law and vested with all the power in matters of health, should unasked seek co-operation with a volunteer body of citizens, unless there was some assurance that the volunteer body wanted co-operation. For the purpose of securing some such assurance on the subject he voted for Mr. Mark's amendment. The resolutions as amended were then adopted.

Mr. Marks then offered the following:

"Whereas, Dr. J. H. Rauch, the Secretary of the Board of Health of the State of Illinois, has recently visited New Orleans and directly interfered and tampered with the health operations of the State Board of Health of Louisiana; and

"Whereas, since the dissolution of the National Board of Health there has been an effort made by illegal bodies to assume to perform its pernicious functions and mischievous tendencies:

"*Be it resolved*, That the President of this board be and he is hereby requested to respectfully suggest to his Excellency the Governor of Louisiana to confer with his Excellency the Governor of Illinois on the propriety of confining Dr. J. H. Rauch to health operations within his own State, and to instruct him to cease his designing efforts to impair public confidence in the State Board of Health of Louisiana."

The resolutions were adopted, after vigorous and emphatic speeches by Messers. Marks and Booth, reciting in detail the interferences of Dr. Rauch with the operations to this board.

The board then adjourned.

PROCLAMATION.

OFFICE BOARD OF HEALTH, STATE OF LOUISIANA.

Whereas, the Mexican ports of Matamoros, Tampico, Tuxpan, Vera Cruz and Minatitlan; all ports on the islands of Cuba, Hayti or San Domingo, Porto Rico and Jamaica, and the Brazilian ports of Rio de Janeiro, Bahia and Pernambuco are infected with yellow fever; and

Whereas no proper system of quarantine is enforced to prevent the spreadof the pestilence to the adjoining coast, many towns and villages of which are in hourly and daily unrestricted intercourse with said infected places, thus rendering them liable to momentary infection, even if the disease does not exist there now; and

Whereas, several vessels from said districts of country infected with said disease are now lying in closé proximity to the seacoast of Mississippi and the Mississippi Quarantine Station; and

Whereas, Asiatic cholera is now prevailing in certain parts of Asia and Africa, and reports of its spreading to European ports are prevalent, from which contagion might be introduced by vessels arriving at this port therefrom; and

Whereas, Section 4 of the act of the State of Louisiana, approved March 18, 1858, and section 1 of the act of March 24, 1876, and section 7 of the act of April 20, 1877, vests in the Board of Health of the State of Louisiana the power and authority in cases of emergency to issue proclamation of quarantine and enforce the same, as against ports other than those named in the proclamation of his Excellency the Governor of Louisiana;

The said board issues this its proclamation, that quarantine take effect from the date hereof as against all places and towns adjacent and contiguous to the Mexican ports of Matamoros, Tampico, Tuxpan, Vera Cruz and Minatitlan, and the Brazilian ports of Rio de Janeiro, Bahia and Pernambuco, and between which and said infected ports unrestricted intercouse is allowed and no rigid quarantine enforced; and all vessels coming therefrom shall be detained ten days and fumigated and cleansed, as in cases of vessels coming from the infected ports named.

Also, that all vessels or persons holding intercourse, or having any personal contact, with any or all vessels, or the crews, passengers or inmates thereof, quarantined at Ship Island or any other point on the Mississippi coast or any of the quarantine stations shall not be allowed to enter the State of Louisiana unless detained at the nearest quarantine station for the space of ten days, and after being cleansed, fumigated and disin, fected.

That all vessels or the crews thereof actually infected with yellow fever or Asiatic cholera arriving at the quarantine stations will not be allowed, under any circumstances, to come to the city of New Orleans.

That all railroads conveying passengers and freight in and to the city of New Orleans will be required to stop any and all trains at the quarantine stations established on their respective routes a sufficient length of time for proper inspection, under such rules and regulations as may be from time to time adopted by the Board of Health in relation thereto.

The quarantine officers at the several stations are specially charged and directed to enforce strictly the execution of this proclamation, and to exercise the utmost vigilance in exacting the strictest conformance thereto, and the Board of Health of the State of Louisiana will apply the most summary methods accorded by the laws of the State of Louisiana in punishing any violations or evasions of its provisions.

Issued by the order of and under the seal of the Board of Health of the State of Louisiana, at the city of New Orleans, this twenty-third day of July, 1883.

JOSEPH JONES, M. D.,
President Board of Health, State of Louisiana.

A true copy: S. S. HERRICK, M. D., Secretary.

NON-INTERCOURSE WITH CITIES AND LOCALITIES IN FECTED WITH YELLOW FEVER OR ASIATIC CHOLERA.

[Extracts from Proceeding of the Board of Health, State of Louisiana, held Monday evening, July 23, 1883.]

On Monday evening, at 7:30 o'clock, there was a special meeting at their rooms, corner of St. Louis and Royal streets, of the Board of Health to confer with a joint committee representing the commercial bodies of this city.

Of the Board of Health were present: President Joseph Jones, M. D.; Drs. Faget, Formento, Pratt and Von Gohren, and Messrs. Booth, Bosworth, Kells and Marks.

Of the joint committee were Messrs. J. J. Stewart, A. Schreiber, J. V. Moore; of the Stock Exchange were C L C. Dupuy, H. W. Connor and H. Neugass; H. D. Coleman and W. G. Wheeler, of the Mexican Exchange; Fendel Horn, L. H. Joseph and W. M. Burrell, of the Chamber of Commerce; also Messrs. A. A. Woods, A. Leblanc, Col. J. W. Glenn, Capt. Joseph H. Lawler, Dr. W. G. Austin, and other citizens.

The President of the Board of Health read a telegram from Surgeon General Hamilton of the Marine Hospital Service at Washington, announcing the existence of Asiatic cholera at London. He also read the following letter from Gov. McEnery:

EXECUTIVE DEPARTMENT, STATE OF LOUISIANA,
Baton Rouge, July 20, 1883.

To the Louisiana State Board of Health:

Gentlemen—Owing to the number of infected vessels with sick crews and dangerous cargoes arriving in the Mississippi and detained at Quarantine Station, that station has become practically an infected port, and especially dangerous from its proximity. This causes great and rapidly increasing alarm at home and in adjoining States, as well as throughout the Southern Valley of the Mississippi.

While a stupendous calamity threatens the lives of our people, all rational measures of self-protection become just and imperatively necessary. The safety of our city and State and the highest public interests now demand stringent precautionary measures.

Therefore I suggest and urgently recommend that from this date until the first of November no vessels infected or vessel with sick crew or passengers be permitted to enter the Mississippi River, and that all infected vessels and vessels with sick crews now at Quarantine Station be sent out of the river as soon as practicable to some convenient locality.

The action of the Board of Health in this regard will be maintained to the full extent.

S. D. McENERY, Governor.

Mr. Schreiber of the Joint Committee then presented the resolutions adopted at the meeting of the Cotton Exchange on Saturday.

Resolved, That the State Board of Health be requested to petition the Governor of the State to have all infected vessels now in the waters of this State removed out of the same, and that he issue his proclamation that henceforth no vessel from any port be permitted to enter the waters of this State.

Resolved, That the Board of Health be requested to reconsider and rescind its action of eighteenth instant, relative to loading cargoes of infected vessels at Quarantine Station.

Resolved, That the commercial bodies here represented have confidence in the State Board of Health and in its efficiency, and believe it is entitled to the confidence of the people throughout the Valley of the Mississippi.

Mr. C. L. C. Dupuy spoke, declaring the importance of the policy embodied in these resolutions.

Mr. Burwell spoke as to the importance of protecting our trade relations with the tropics by all possible safe-guards against disease, but at the same time to beware of the efforts of communities north of us who are interested in breaking down by every possible means the commerce of New Orleans in the interest of Eastern railways.

Col. F. C. Zacharie, counsel for the board, read a legal opinion on the power and rights of States to exclude infected shipping from their ports.

The President then spoke of the work of this board, as at present organized, since 1880. With stinted means at its command it had undertaken to guard the entire coast of Louisiana, and so far no epidemic of foreign pestilence has made its appearance in this city or State.

During the present year the three principal quarantine stations of the State had been improved and made more adequate to the uses they were intended for, and every effort had been made to render the service if possible more efficient. The station at the Rigolets had been removed to Rabbit Island and had been greatly improved. It is so situated as to command the entrance to Pearl River, and it is working in connection with the authorities of Harrison county, Mississippi, for the protection of all points on Pearl River. The Rigolets station protects the back door of New Orleans; two thousand vessels enter the city annually from the Lake.

He spoke also of the vessels in the river from Vera Cruz. The Buteshire has been completely isolated from communication with the city, and is about to depart, while the Merchant, which has had no sickness while in quarantine, has sailed.

At the last meeting of the board stringent regulations had been adopted for the treatment of infected ships. The State of Louisiana and the Mississippi Valley had been protected from yellow fever by the rigid and intelligent execution of the quarantine laws of Louisiana, which the President conceived to be ample for the present and all future emergencies.

Mr. Marks then offered the following:

Resolved, That the State Board of Health of Louisiana fully indorses the resolutions adopted by the committee of the conference held at the Cotton Exchange on the twenty-first:

Resolved, That the Governor of Louisiana be and he is hereby requested to issue a proclamation of non-intercourse with ports infected with yellow fever, namely [list to be added]; and to order all infected vessels out of the waters of the State, as recommended by him in his letter of the twentieth instant to this Board.

The resolutions were favored by Messrs. Marks, Formento and Von Gohren.

Mr. Booth said he could not support them. They destroyed all scientific quarantine. Quarantine was not the blockading of a port, but the detention under wise regulation of infected persons and ships. Quarantine meant originally forty days. We could detain vessels and persons as long as might be necessary to give protection, but he was opposed to the barbarous processes of exclusion. We had protested against the merciless shotgun quarantine as applied to us, but we now propose to apply it to ships in distress. Hospitality has its just demands as well as commerce, and to listen to the counseling of a blind panic is not the part of the guardians of the public health.

The resolutions were put to a vote and adopted, Mr. Booth alone voting no.

The following, offered by Dr. Formento, was adopted:

Whereas, there is danger of yellow fever being introduced into New Orleans through unrestricted communication between Ship Island and the coast of the State of Mississippi; be it

Resolved, That the Governor of the State of Louisiana be requested to call the attention of the Governor of Mississippi to this fact, and urge him to take stringent measures to put a stop to this dangerous intercourse; be it

Resolved, That the general government be requested, through the proper authorities, to order that no communication should be held between Ship Island and the Mississippi coast.

Dr. Jones said that since the station at Ship Island had passed into the hands of the Marine Hospital Service it has been guarded wirh great strictness, and he did not believe there was any justice in attacks on it. He believed that Surgeon General Hamilton and his assistants were exerting their utmost to isolate the place, and he felt sure it was being done. The State Board of Health of Mississippi does not take proper care of the sea coast line of the State, which is left to local sanitary authorities.

The meeting then adjourned.

NEW ORLEANS, July 24, 1883.

His Excellency, Samuel Douglas McEnery, Governor State of Louisiana, Baton Rouge, La.:

Dear Sir—I have the honor to inclose herewith resolutions adopted by the Board of Health, of the State of Louisiana, at the special meeting held last evening, for the purpose of considering the communication of your Excellency; also copy of resolutions of joint conference of meeting of official committees of New Orleans commercial bodies.

With great respect your obedient servant,

JOSEPH JONES, M. D.,
President Board of Health, State of Louisiana.

OFFICE SECRETARY OF STATE, STATE OF LOUISIANA,
BATON ROUGE, July 24, 1882.

Dr. Joseph Jones, President Board of Health, New Orleans:

My Dear Doctor—I am directed by the Governor to transmit to you, herein enclosed, his proclamation, in pursuance with the resolution of the Board of Health, with the request that you will give it as much publicity as you can, in view of the importance of the subject matter.

Very respectfully, your obedient servant,

OSCAR ARROYO,
Assistant Secretary of State.

ADDITIONAL QUARANTINE PROCLAMATION.

EXECUTIVE DEPARTMENT,
STATE OF LOUISIANA.

Whereas, at a meeting of the Board of Health of the State of Louisiana, held in the city of New Orleans, on the twenty-third day of July, 1883, the following resolution was adopted:

Resolved, That the Governor of Louisiana be and is hereby requested to issue a proclamation of non-intercourse with ports infected with yellow fever, to-wit: Vera Cruz, Rio de Janeiro, Havana, and such other ports as may become infected with yellow fever, and to order all infected vessels out of the waters of the State, as recommended by him in his letter of the twentieth instant to the board."

Now, therefore, I, Samuel D. McEnery, Governor of the State of Louisiana, by virtue of the authority in me vested by law, and in pursuance of the above resolution, do hereby order and direct that all vessels now at the Quarantine Station, on the Mississippi River, which are infected with yellow fever, be removed without unnecessary delay * * and I do hereby further order and direct that all vessels from the ports above named, and such other ports as may become infected with yellow fever, be prohibited from entering the waters of the State of Louisiana.

The Quarantine officers at the Quarantine Station are especially charged and directed to enforce strictly the execution of this proclamation, and the Board of Health is requested to prosecute vigorously all violations of the same.

Given under my signature and the seal of the State of Louisiana, at the city of Baton Rouge, this twenty-fourth day of July, A. D., 1883. S. D. McENERY,

By the Governor: Governor of Louisiana.

OSCAR ARROYO, Assistant Secretary of State.

EXECUTIVE DEPARTMENT, STATE OF LOUISIANA,
BATON ROUGE, LA., July 28, 1883.

Dr. Joseph Jones, President Louisiana Board of Health:

Sir—Respecting the vessels sent away from the Mississippi River, it is obvious that their future course and destination are entirely beyond the control of State authorities. It is for their owners or masters to send them to the ports whence they came or to a nearer temporary refuge. They will naturally for the most part be sent to the nearest refuge station. Such infected vessels as may go from the Mississippi River to Ship Island will be received at the United States Refuge Station there, of which I have the direct assurance of the Hon. Chas. J. Folger, Secretary of the Treasury, by telegraphic dispatch dated July 27. Masters of vessels sent away should be informed of this privilege, with or without counsel in the matter from the Board of Health, as the latter may see proper. The clearing of the Mississippi River from infection is a measure of paramount necessity. While we endeavor to mitigate the incidental hardships resulting from its execution, we assume no new responsibility.

I have abiding confidence in the vigilance, energy and wisdom of our State Board of Health. Yours very respectfully, S. D. McENERY,

Governor State of Louisiana.

QUARANTINE, July 25, 1883.

Joseph Jones, M. D., President Board of Health:

No new cases. Only three convalescents; balance well. Have had no sickness on any vessel here, except bark Berna and steamship Buteshire. The following vessels are here: Brig Ana Faura, steamship Gracia, ship Angelita, steamship Emiliano and schooner Susan Scranton, from Havana; schooner Alice C. Noyes, from Carthagena, and steamship Architect, from Colon, and bark Berna, from Vera Cruz, which will leave shortly. J. T. FINNEY, M. D., Resident Physician.

QUARANTINE, July 26, 1883.

Joseph Jones, M. D., President Board of Health, State of Louisiana:

Does Governor's proclamation apply to vessels nearly ten days here, and which have been perfectly healthy? Does it include vessels arriving from all the Cuban ports, or only vessels from Havana direct?

J. T. FINNEY, M. D.

PORT EADS, July 25, 1883.

Dr. Joseph Jones, President Board of Health:

E. D. Sidbury in sight, from Vera Cruz. If sickness on board, what steps shall I take?

HART, Inspector.

NEW ORLEANS, July 25, 1883.

Dr. G. H. G. Hart, Board of Health Inspector, Port Eads:

Anchor Sidbury and await further orders, and allow no communication whatever.

JOSEPH JONES, M. D.

THE BOARD OF HEALTH RESOLVES NOT TO PERMIT THE STEAMER EMILIANO, FROM HAVANA, TO COME TO THE CITY.

The Board of Health met at their rooms corner of St. Louis and Royal streets, on Friday afternoon at 1 o'clock, July 27, 1883, with President Joseph Jones, M. D., in the chair, and Messrs. Booth, Bosworth, Kells, Marks and Drs. Formento and Von Gohren present.

The board then went into executive session and so continued for nearly an hour. About 2 o'clock the doors were opened, when the President read a number of communications, the most importaat of which were the following:

A telegram from Dr. Finney at the Mississippi Quaratine Station:

QUARANTIE STATION, May 25, 1883.

Joseph Jones, M. D., President of the Board of Health:

No new cases of yellow fever; only three convalescents, balance all well; have had no sickness on any vessels here except bark Berna and steamship Buteshire. The following vessels are here: Brig Anna Faura, steamship Gracia, ship Angelita, steamship Emiliano, also the schooner Susan Scranton from Havana, schooner Alice C. Noyes from Carthagena and steamship Architect from Colon. The bark Berna from Vera Cruz will leave shortly. J. T. FINNEY, M. D.,
Resident Physician.

Also the following from Dr. G. H. J. Hart, medical officer at the Jetties:

JETTIES, July 25.

Dr. Joseph Jones, President of the Board of Health

Steam schooner Sidbury in port, at anchor, from Tampico, previously from Vera Cruz,
HART, M. D. Inspector.

Also, the following from the clerk of the Commissioner of Police:

DEPARTMENT OF POLICE AND PUBLIC BUILDINGS,
New Orleans, July 27, 1883.

Sir—I am directed by Commissioner Mealey to ask you if you would be kind enough to request the Sanitary Inspectors of the different districts to visit the markets and examine the meats offered for sale, and he will instruct the inspectors of the markets to be under the control of your inspectors.

There appears to be a strong desire to correct the abuse of selling unwholesome food in the markets, and he asks that you and your inspectors help in this matter.

Yours, etc., D. M. McCARTHY, Chief Clerk.

Also the following, which is a copy of instruction sent to the medical officer at the jetties:

OFFICE BOARD OF HEALTH, STATE OF LOUISIANA,
New Orleans, July 26, 1883.

Dr. G. H. G. Hart, Quarantine Inspector, Port Eads:

Sir—Inclosed I herewith forward for your information and guidance, additional quarantine proclamation of His Excellency, Samuel Douglas McEnery, of July 24, 1883; also proclamation of Board of Health of State of Louisiana, of July 23, 1883.

Show the proclamation of His Excellency, Gov. S. D. McEnery, to the captain or master of vessels from ports infected with yellow fever informing him that in accordance with the orders of the Governor of Louisiana, he will not be permitted to bring his vessel with her crew and cargo within the waters of this State.

Proceed in a similar manner with all vessels coming from the ports named in the Governor's proclamation. In the event that a vessel should arrive from any other port in which yellow fever or Asiatic cholera is prevailing, or in the event that any vessel has had yellow fever or Asiatic cholera, in the ports from whence she sails, or on the voyage, proceed in the same manner.

Allow no vessel from the ports mentioned, or from any port infected with yellow fever or Asiatic cholera, to enter the Mississippi River.

Inform the pilots of the provisions of the Governor's proclamation, and report any violation of the laws of Louisiana by the pilots, or any seaman, traveler or citizen, to the Board of Health. Respectfully, JOSEPH JONES M. D.,
President Board of Health, State of Louisiana.

Mr. Marks then stated that the chief business of the meeting was to act on the petition of A. K. Miller & Co., stating that the Spanish steamship Emiliano, from Cienfuegos, Cuba, via Havana, had arrived at Quarantine Station at 11:45 p. m., twenty-third instant, with all well on board. He asked that this vessel, an iron steamship, in ballast, be permitted to come up the river after the ordinary quarantine observations, as she had arrived previous to the declaration of the non-intercourse policy.

He did not see how the board could admit any ship from the infected ports named in the proclamation of non-intercourse, as it was the presence in the waters of the State of these very ships that had caused the public alarm that had given rise to this policy of non-intercourse.

Mr. Marks then offered the following.

Resolved, That under existing proclamations concerning quarantine, the Board of Health cannot grant the request made in behalf of the steamship Emiliano.

Dr. Formento, one of the prime movers of the original resolutions on non-intercourse, now advocated the granting of the petition of Messrs. Miller & Co., and offered the following:

Resolved, That the steamer Emiliano, which arrived in the Mississippi River before the issuance of the Governor's non-intercourse proclamation, and is not an infected ship, be detained at the Quarantine Station until such time as the Board of Health may consider proper to allow her to come to the city.

Mr. Marks said a vessel from an infected port is in public opinion an infected vessel, and in the opinion of the people of the Mississippi Valley a subject of alarm, and this Board cannot trifle with such a matter. The presence of yellow fever of a virulent type at Havana and Vera Cruz had excited such general alarm that leading commercial bodies and citizens of all classes had demanded the entire exclusion of all vessels coming from those ports attempting to enter here. The vessels in the river at Quarantine Station from those ports had caused the general outcry for their exclusion.

This Board cannot afford to pass resolutions of non-intercourse and then set them aside for any considerations of friendship or commercial profit.

Mr. Booth said he was not surprised that the severity of the rule of non-intercourse, even at this early day, was found to be oppressive by its promoters and originators. He, for his part, had opposed such a policy. He had thought that this Board, by means of its excellent and thorough arrangements for detention and disinfection, was able to cope with the dangers of infected shipping; but absolute exclusion of all shipping arriving from certain ports had been insisted on, and that policy had become a law to bind this Board. Now there was nothing left to this Board but to execute that law with the utmost strictness. It had been said by another, General Grant, he believed, that the best way to do away with an obnoxious law was to enforce it with stern impartiality, and there is no other way to act in the present instance.

Dr. Formento's substitute for Mr. Marks's resolution was put to the vote, and lost by the following:

Ayes—Formento and Von Gohren—2.

Noes—Booth, Bosworth, Marks and Kells—4.

Mr. Marks's resolution to exclude the Emiliano was then adopted.

MATTERS AT QUARANTINE—GOVERNOR McENERY MAKES FINAL DISPOSITION OF DR. PATTON—A STUBBORN SKIPPER—A FEVER SHIP OUTSIDE THE BAR.

The following dispatches passed yesterday:

NEW ORLEANS, July 31, 1833.

Dr. J. F. Finney, Resident Physician, Mississippi Quarantine Station:

The quarantine powers of the National Board of Health having expired, and Dr. G. Farrar Patton being a representative neither of the National Board nor of the United States Marine Hospital Service, the order permitting him to remain at the Mississippi Quarantine Station is hereby rescinded, and the said Patton, formerly Inspector of the National Board of Health, is hereby ordered to leave the Mississippi Quarantine Station, and will be subjected to such quarantine, isolation, detention and disinfection as may be in accordance with the rules and regulations of the Board of Health of Louisiana.

S. D. McENERY, Governor of Louisiana.

MISSISSIPPI QUARANTINE STATION,
July 31, 1883.

Dr. Joseph Jones, President Board of Health:

The captain of schooner E. D. Sidbury refuses to leave here unless he is permitted to discharge his cargo. Everybody perfectly well here.

J. F. FINNEY, Resident Physician.

[Answer.]

NEW ORLEANS, July 31, 1883.

To Dr. J. F. Finney, Resident Physician Mississippi Quarantine Staiton:

Inform captain of the E. D. Sidbury that he will not be allowed to discharge his cargo; neither will he be allowed to come up to the port of New Orleans. I have seen Gov McEnery, and this is his decision, in accordance with that of the Board of Health. The Governor of Louisiana will use every means, moral and physical, to sustain the provisions of his proclamation for the protection of the State of Louisiana and the Mississippi Valley from the introduction of yellow fever and Asiatic cholera.

JOSEPH JONES, M. D.,
President Board of Health, State of Louisiana.

PORT EADS, July 31, 1883.

To Joseph Jones, M. D., President Board of Health:

Steamer ———, four days from Vera Cruz. One case sickness on board. Anchored one mile to sea.

G. H. J. HART, M. D., Inspector.

NEW ORLEANS, July 31, 1882.

To Dr. G. H. J. Hart, Quarantine Inspector Port Eads:

I have consulted Gov. McEnery. He will maintain his proclamation by force if necessary. If steamer ——— attempts to enter the waters of Louisiana telegraph me immediately, in order that proper measures may be instituted. Warn all pilots and captains of towboats that if they disobey the proclamation of the Governor of Louisiana the Board of Health will take immediate measures for their arrest and punishment according to law. They are prohibited from piloting or towing any vessel from ports infected with yellow fever or Asiatic cholera. Report immediately any violation of proclamations of Board of Health and of Governor.

JOSEPH JONES, M. D.,
President Board of Health.

UNITED STATES MARINE HOSPITAL SERVICE AND SHIP ISLAND—RESOLUTIONS OF HON. I. N. MARKS, REAFFIRMING HIS PREVIOUS RESOLUTIONS ESTABLISHING NON-INTERCOURSE WITH PLACES INFECTED WITH YELLOW FEVER.

[Extract from proceedings of the Board of Health of the State of Louisiana, regular meeting, August 2, 1883.]

Dr. John Godfrey, of the Marine Hospital Service, being present, was invited to speak as to the arrangements for the isolation of the Quarantine Station at Ship Island, under the control of his office.

Dr. Godfrey said that when the Marine Hospital Service took charge of the station at Ship Island it was intended to make it a refuge station for infected vessels, and to provide all the means and appliances under the most comprehensive and stringent regulations that experience and science had taught were necessary to guard the coast from the invasion of foreign infection.

Some time ago the Louisiana Board of Health had passed resolutions implying that there was uninterupted intercourse between the Quarantine Station at Ship Island and the coast of Mississippi. The speaker denied that there had been such intercourse since the station had been in charge of the Marine Hospital Service. The most thorough regulations for the isolation of the Quarantine Station had been in force all the time. At night all the boat oars on the infected ships were put under lock and key, so that desertions in small boats would be impossible. A patrol boat passes around the infected ships, day and night, to intercept any attempt to communicate between the vessels and shore. No bedding, clothing or other articles of the kind were permitted to be cast into the sea from the ships. All such matter as was to be destroyed was conveyed ashore and burned, and clothing and other textiles that were to be disinfected were boiled thoroughly with cloride of lime. As to stories told of bedding found floating in the water along the Mississippi coast, he could say it did not come from the Quarantine Station or the vessels under detention at Ship Island. There is no intercourse except official, under strict regulations. The Marine Hospital Service has at its disposal ample means and these were being used under thorough and skillful management to fence out foreign infection from the ports of the country, and so far they have been used effectually.

Col. John W. Glenn, United States Superintendent of Public Buildings, said he had personal knowledge of the regulations in force at Ship Island Quarantine, and they were strictly and faithfully executed. He had the testimony of parties who had seen the floating mattresses complained of by some persons as having possibly been thrown from ships, and the information was obtained that they were not ships' mattresses, and were not of the sort used at sea. He explained also that there is a great difference between Ship Island station and Ship Island anchorage. The anchorage, which is several miles from the island, is a place were ships may lie in water of four or five fathoms in depth, protected from the force of the open sea. This anchorage is resorted to by ships which cannot enter the shallow ports along the coast, and has nothing to do with the island and no connection with the quarantine fleet, which lies at the east end of Ship Island.

The President expressed his entire confidence in the wisdom and efficiency of the Marine Hospital Service, and was sure it is accomplishing a good work in protecting the country from foreign disease. Since this service had become known to the public by its work there had been a greater sense of security and an almost complete absence of such sensational rumors as had obtained at this season in former years. Nearly every port on the coasts of the country had been threatened by yellow fever, but the thorough and prompt arrangements that had been made to meet it had been such as to win and justify public confidence in spite of the hostility of interested parties.

Dr. Formento said he had been the author of the resolutions implying that there was unrestricted intercourse between Ship Island and the adjacent coasts. He made the statement on the representations of Commodore Maginnis and Dr. Austin, but this intercourse might have taken place before the regulations of the Marine Hospital Service were put into execution. At any rate, he now has confidence in the service and faith in the strong arm of the Government as perhaps the only rightful authority competent to exercise and enforce quarantine on the coast.

Mr. Booth protested against the assumption by the last speaker that the State Government had no right to declare and enforce quarantine it its waters. He claimed this right for the States, but recognized the value of the General Government to settle questions where the interests of the States might not harmonize in matters of quarantine.

The President reported that the record of deaths showed sixty-seven deaths in the past four days, five of which are from small-pox and four from malarial fevers. Mr. Marks quoted Dr. Miles, House Surgeon at the Charity Hospital, for testimony as to the unusual freedom of the city from malarial fevers, and Dr Formento said the private practice of all the physicians in the city showed the same fact.

The President read several communications from Hon. Warner P. Sutton, U. S. Counsul General at Matamoros, Mexico, protesting against the quarantine restrictions against his city, which is healthy.

Letters were read from Messrs. G. Corral & Co. and others, asking that the Spanish steamer Gracia and the barks Angelita and Anna de Faura be allowed to come up to the city from quarantine, where they now are. Also from Smith Bros. & Co., asking a cargo of Mexican coffee on board the schooner Sidbury be permitted to be landed at quarantine and after disinfection be brought to the city.

Mr. Marks then ordered the following:

"Whereas, as a measure of full public safety for the health and lives of the people of Louisiana, the Valley of the Mississippi and the surrounding States, the Governor has issued a proclamation of non-intercourse with the yellow fever infected ports of Vera Cruz, Havana and Rio de Janeiro: and

Whereas, next in importance to the protection ef the health and lives of the people comes the preservation of the commerce, interstate and inland, of the city of New Orleans upon which during the summer months the eommercial prosperity of this city depends;

And whereas, good faith to the Governor of this State, proper respect and regard to the expressed opinions of the commercial exchanges of New Orleans and undoubted security against the admission of foreign pestilence, imperatively demand that no vessel from a yellow fever infected port shall enter the harbor of New Orleans during this summer, load or unload at any of the quarantine stations of this State.

Be it therefore resolved That the President of this board be and is hereby instructed not to permit any vessel now in the waters of Louisiana, from any yellow fever infected port, either to load or unload cargo at any quarantine station of the State, or proceed from such station to the city of New Orleans."

Mr. Marks urged the importance of the emergency which required such action, and the great responsibility resting on this board.

Dr. Formento advocated admitting the vessels now at quarantine.

Mr. Marks' resolutions were adopted.

Mr. Booth offered a supplementary resolution specifying the names of the vessels now at quarantine as included in the prohibitory proclamation of the Governor, which was adopted.

A letter from the postmaster at New Orleans was read stating that a package of mail marked Buras, and bearing evidence of being foreign mail matter, had been received at the postoffice. It had been referred to Dr. Finney, quarantine officer at the Mississippi Station. His reply was read, stating that this mail consisted of letters written by two acclimated and healthy passengers of the schooner Sidbury, from Tampico. The foreign mail brought by the Sidbury is still in the ship detained at quarantine.

The board then adjourned.

NEW ORLEANS, September, 7, 1882.

His Excellency Samuel D. McEnery, Governor State of Louisiana, Baton Rouge, La.:

Dear Sir—I have the honor herewith to enclose resolutions unanimously adopted by the Board of Health of the State of Louisiana, at the regular meeting, September 6

1883, requesting your Excellency to withdraw the Quarantine Proclamation of July 24, said withdrawal to take effect on the fifteenth of September, 1883; the original proclamation of the fourth of April remaining in full force.

The thanks of the State Board of Health of Louisiana are respectfully tendered to your Excellency for thorough co-operation with the Board, and for the firm maintenance of the quarantine laws of Louisiana.

Respectfully, your obedient servant, JOSEPH JONES, M. D.,
President Board of Health, State of Louisiana.

COPY OF RESOLUTIONS BOARD OF HEALTH, STATE OF LOUISIANA.

By Mr. Marks:

Whereas, in the month of July last, it became necessary for the preservation of the health and lives of the people of Louisiana the surrounding States and the Mississippi Valley, to proclaim non-intercourse with yellow fever infected ports of Havana, Rio de Janeiro and Vera Cruz; and

Whereas, this measure was not only demanded by the exigencies of the situation, but was imperatively called for by the various commercial representative bodies of New Orleans; and

Whereas, believing that the period has been reached, with the close of summer, when commerce with the proclaimed ports can be relieved from the rigorous, though necessary, interference to which it has been subjected; be it therefore

Resolved, That the State Board of Health of Louisiana respectfully request his Excellency Governor S. D. McEnery to withdraw his proclamation of non-intercourse of July 24, 1883; leaving in full force the proclamation of detention previously issued.

Resolved, That the thanks of the State Board of Health of Louisiana be and they are hereby tendered to his Excellency Samuel D. McEnery, Governor of Louisiana, for his thorough co-operation with this Board, and for his firm maintenance of the quarantine laws of Louisiana.

A true copy. S. S. HERRICK, M. D.,
Secretary Board of Health, State of Louisiana.

EXECUTIVE DEPARTMENT STATE OF LOUISIANA.

Whereas, at a regular meeting of the Board of Heath of the State of Louisiana, held in the city of New Orleans on the sixth day of September, 1883, the following resotion was adopted:

"That the State Board of Health of Louisiana respectfully request His Excellency, Samuel D. McEnery, to withdraw his proclamation of 'non-intercourse' of July 24, 1883, on the fifteenth instant, leaving in full force the proclamation of detention previously issued."

Now, therefore, I, Samuel D. McEnery, Governor of the State of Louisiana, by virtue of the authority in me vested by law, and in pursuance to the above resolution, believing that the period has been reached, with the close of summer, when commerce with the proclaimed ports can be relieved from the rigorous, though necessary, interference to which it has been subjected do hereby withdraw my proclamation of non-intercourse of July 24, 1883, said withdrawal to take effect on the fifteenth instant, the original proclamation of the fourth day of April, 1883, remaining in full force and effect; and the quarantine officers at the quarontine stations are specially charged and directed to enforce strictly its execution, and the Board of Health is requested to prosecute vigorously all violations of the same.

Given under my signature and the seal of the State of Louisiana, at the city of Baton Rouge, on this eighth day of September, A. D., 1883.

(Signed) S. D. McENERY,

By the Governor:

WILL. A. STRONG, Secretary of State.

NEW ORLEANS, September 12, 1883.

His Excellency Samual Douglas McEnery, Governor State of Louisiana, State Capitol Baton Rouge, La.

Dear Sir—I have the honor to acknowledge the letter of your Excellency of the eighth instant, enclosing copy of note from the diplomatic representative of Spain, communicating the complaint of parties interested against the Board of Health of the State of Louisiana; also letter of Hon. John Davis, Acting Secretary of State, bearing date Washington, D. C., September 9, 1883.

In accordance with the request of your Excellency, I herewith return the said documents; and also present the enclosed copies of the acts of the Board of Health, relative to the Spanish brig Ana Faura, the Spanish Corvette Angelita, and the Spanish steamer Gracia.

(a). Certificate of arrival of brig Ana Faura and ship Angelita.

(b). Certificate of arrival of steamship Gracia.

(c). Permission to coal steamship Gracia.

(d). Authority to coal steamship Gracia at Port Eads, under direction of Dr. Hart.

(e). Certificate issued by President of Louisiana Board of Health to brig Ana Faura.

(f). Certificate issued by President Louisiana Board of Health to steamship Angelita.

(g). Communication to Dr. Finney, Resident Physician Mississippi Quarantine Station.

(h). Extracts from minutes of Board of Health. Resolutions adopted August 3, 1883.

(i). Extracts from minutes Board of Health, August 3, 1883.

(j). Letter of President Louisiana Board of Health to Hon. Pedro de Solis, Consul of Spain, August 4, 1883.

(k). Letter of President Louisiana Board of Health to Messrs. Miller and Finney attorneys at law, August 4, 1883.

(l). Letter from His Excellancy S. D. McEnery, Governor of Louisiana, to President Board of Health, July 23, advising the policy of non-intercourse.

(m). Extracts from minutes of meeting of Board of Health, July 23, 1883. Action, with reference to non-intercourse with infected ports.

(n). Extracts from minutes of meetings Board of Health, August 2, 1883, with reference to interpretation of non-intercourse proclamation; also with reference to steamship Angelita, steamship Gracia and brig Ana Faura.

(o). Additional quarantine proclamation of His Excellency S. D. McEnery, July 24, 1883.

(p). Original proclamation of His Excellency S. D. McEnery, April 4, 1883.

(q). Proclamation of His Excellency S D. McEnery, September 8, 1883, withdrawing non-intercourse proclamation of July 24, 1883.

(r). Reports of conference committee of Board of Health, with reference to British steamship Plessy, refused entrance to mouth of Mississippi, August 29, 1883.

(s). Report of meeting of Board of Health, July 23, 1883; action on non-intercourse by Board of Health and commercial bodies.

(t). Extract from minutes of Board of Health, September 6, 1883, requesting His Excellency S. D. McEnery to withdraw proclamation of non-intercourse. In response to the request of your Excellency that I should present my views as to the action of the Board of Health with reference to the vessels specified by the Spanish Ambassador, I beg leave to submit the following in addition to the inclosed papers – a–t.

1. The following facts are well established and will apply to the proclamation of July 29, 1883, excluding vessels from ports infected with yellow fever and Asiatic cholera from the waters of Louisiana, and to all acts of a similar character which may in the future be demanded for the preservation of the public health.

(a). Quarantine regulations and restrictions relate to the preservation of the health and lives of the people, and are based upon the evident and inalienable right of self-preservation. The duty of each State to protect its citizens from the importation of foreign pestilence is clear and imperative.

(b). The State of Louisiana has recognized these principles, and in her sovereign capacity has enacted laws and commissioned the proper officers, including the Chief Executive of the State, and the members of the Board of Health, duly confirmed by the General Assembly, and sworn to support the laws of Louisiana and of the United States, for the express purpose of exercising the police powers of the State for the exclusion of foreign pestilence and the protection of the health and lives of the people.

(c) The power to establish and enforce quarantine regulations had been exercised by the individual colonies, and has never been surrendered to the General Government.

2. The establishment and enforcement of quarantine, and even the absolute exclusion of infected ships and ships from infected ports, is not a regulation of commerce in violation of the Federal Constitution and of foreign treaties; but it is simply the exercise of their police powers by the individual States which are inalienable, and which have not and which cannot be surrendered to the General Government, and which cannot be disregarded or violated by any domestic or foreign power.

3. In accordance with section four of "An act Supplementary to an Act Entitled 'An Act Relative to Quarantine,'" approved March 18, 1858, "In case of emergency the Board of Health shall have power to issue proclamation of quarantine without reference to the Governor, and to enact all needful regulations for the enforcement of the same."

By the act of March 29, 1876, the time of quarantine detention was left discretionary with the Board of Health; the time of detention might be just sufficient for inspection, or it might be ten or twenty or 100 days.

By the act of April 30, 1877, "To Reorganize and Render More Efficient the Board of Health of the State of Louisiana." etc., section 17, it is ordained that the Board of Health "shall have power and authority to establish quarantine stations upon any of the approaches to the city of New Orleans whenever, in its discretion, such stations may be rendered necessary to protect the health of the city of New Orleans or the State, and to make all needful rules and regulations with reference to the management and police of such stations.

In virtue of the preceding organic acts of the General Assembly, the Board of Health of the State of Louisiana has established quarantine stations at the most important points on the confines of Louisiana, viz., Port Eads and the mouths of the Mississippi; English Lookout, on the borders of Mississippi.

At both stations ships, passengers and railroad trains are admitted or excluded from the limits of the State, in accordance with the orders of the Board of Health.

No infected person or ship is allowed to enter the State.

During the non-intercourse proclamation, at the mouths of the Mississippi River, vessels from ports infected with yellow fever were allowed to ride at anchor in the waters of the Gulf, to proceed to any port they may desire, and all the necessary wants were supplied under the supervision of the officers of the Board of Health, but in this time of danger and peril they were not allowed to jeopardize the health of the State and of the Valley of the Mississippi by entering the waters of Louisiana.

4. The right to exclude vessels from infected ports, for the protection of the public health is recognized and practiced by all civilized nations, and by no nations more freely than Spain and England.

At the present moment Egypt and the neighboring countries of Europe and Asia and Africa, furnish examples of the most despotic and rigorous systems of non-intercourse for the arrest of asiatic cholera, and the Spanish government has called loudly upon England for the enforcement of the most rigorous measures of quarantine and non-intercourse.

Numerous examples might be cited of the exercise of forcible protection against contagion, but the following will illustrate the mode in which States have dealt with infected ships and towns.

In 1748, the Adam, a Dutch ship, carrying rice from Damietta to Marseilles, was cast on the shore of the Island of Majorca in a tempest. The inhabitants (Spaniards) refused to permit the crew to land, as they feared the plague, from the fact of the ship sailing from the Levant. As the ship could not be removed, the Spaniards set her on fire, having previously furnished the crew with five boats, in which to save themselves and part of the cargo.

In 1719, the captain of the Grand Saint Antoine, a French ship, returning to Marseilles from the Levant, and having lost some of his crew from the plague, fraudulently pretended that they had died of bad provisions, and neglected to go into quarantine. This cruel fraud was the cause of the death of half the inhabitants of the city. By order of the Minister the vessel was burnt.

When Valetta was attacked by the plague, in 1813, Sir Thomas Maitland ordered a *cordon sanitaire* to be drawn around the town, and every person who attempted to pass it to be shot.

5. The action of the Board of Health of the State of Louisiana, in excluding vessels from ports infected with yellow fever from the waters of Louisiana, was taken at a time when yellow-fever stricken ships were scattered along the Atlantic and Gulf coasts and the State of Louisiana and the entire Mississippi Valley were menaced by yellow fever.

By the exclusion of vessels from the City of New Orleans, which had sailed from the infected ports, Havana, Vera Cruz and Rio de Janeiro, commerce was protected, and the health of Louisiana and the Mississippi Valley protected by the exclusion of yellow fever.

The Spanish marine and nation have been and will be benefited by the prompt and energetic action of the health authorities of Louisiana.

With great respect and high esteem, I have the honor to remain your obedient servant,

JOSEPH JONES, M. D.
President Board of Health, State of Louisiana.

MISSISSIPPI QUARANTINE STATION--REPORT OF DR. FINNEY, 1883.

QUARANTINE STATION, MISSISSIPPI RIVER,
Louisiana, January 3, 1884.

To the Hon. President and Members of the Louisiana State Board of Health, New Orleans, La.;

Gentlemen—I would respectfully submit the enclosed report of the work done at this station during the year ending December 31, 1883. In addition to the repairs suggested by me in my last annual report, and which have not been made so far, I would advise that the present wharf and boat-house be extended at least sixty feet further into the river, as at present it is impossible, in low river, to get near the boat-house in our boat.

Speaking of boats, I think, in the interests of the shipping and to facilitate the work at this station, your honorable body could not invest money to better advantage than in purchasing a suitable steam launch for the purpose of boarding vessels with and for making the necessary daily inspection of the fleet that is in quarantine during the summer months. During the past summer I had as many as fourteen vessels in quarantine at one time. These vessels must have a good and safe anchorage, and consequently have to be some distance apart. That being the case, it is impossible to make a daily inspection of so many vessels and perform the other necessary duties of boarding, disinfecting and fumigating with a boat propelled by oars. I would also ask that you gentlemen allow this station a druggist, who should act as hospital steward as well. Hoping you will take action in these matters as soon as possible,

I remain your obedient servant.

J. F. FINNEY, M. D.,
Resident Physician.

TABLE NO. 1.—RFPORT OF VESSELS BY MONTHS PERMITTED TO PASS THE MISSISSIPPI RIVER QUARANTINE STATION WITH THE AMOUNTS COLLECTED AND CLASSIFICATION OF VESSELS.

MONTHS.	Steamship.	Sail Ships.	Barks.	Brigs.	Schooners.	Steam Tugs	Total.	Tax Fees.	Fumigation Fees.	Total Fees.
January	62	8	25	3	14	0	112	$2,195 00	.....	$2,195 00
February	57	7	30	2	16	0	112	2,180 00	.....	2,180 00
March	82	5	14	4	16	0	121	2,315 00	.....	2,315 00
April	59	4	32	4	16	1	116	2,180 00	.....	2,180 00
May	53	1	12	5	21	0	92	1,647 50	$533 00	2,180 50
June	36	0	7	2	11	4	66	922 50	316 00	1,238 50
July	32	1	4	2	7	1	47	752 50	305 00	1,057 50
August	29	0	2	3	10	0	44	565 00	99 00	664 00
September	57	2	1	0	6	0	66	1,355 00	224 00	1,579 00
October	76	4	10	1	13	0	104	2,167 50	470 00	2,637 50
November	62	10	25	4	17	0	118	2,227 50	.....	2,227 50
December	82	4	32	4	10	1	133	2,860 00	.....	2,860 00
Total	687	46	194	34	157	7	1,125	$21,367 50	$1,947 00	$23,314 50

TABLE NO. 2.—REPORT OF VESSELS QUARANTINED AT MISSISSIPPI RIVER QUARANTINE STATION BY MONTHS AND CLASSIFICATION OF VESSELS.

MONTHS.	Steamships.	Sail Ships.	Barks.	Brigs.	Schooners.	Steam Tugs.	Total.	
May	17	1	4	4	2	0	28	
June	8	0	6	2	8	2	26	
July	9	1	4	1	3	0	18	July 24, non-intercourse proclamation.
August	3	0	0	2	0	0	5	
September	9	0	0	0	2	0	11	September 12, non-intercourse proclamation modified to ten days detention.
October	16	1	5	1	3	0	26	
Total	62	3	19	10	18	2	114	

TABLE NO. 3—REPORT OF PORTS QUARANTINED, WITH NUMBER OF VESSELS FROM EACH, BY MONTHS.

Port.	May.	June.	July.	August.	September.	October.	Total.
Havana	15	7	10	.....	1	10	43
Vera Cruz	4	5	5	.....	1	4	19
Colon	3	2	3	2	3	4	17
Campeche	2	5	.....	1	2	1	11
Barbadoes	1	3	.....	.....	.....	4	8
Tampico	2	.....	.....	.....	1	.....	3
Port de France	.....	2	.....	.....	.....	1	3
Kingston	.....	.....	.....	.....	.....	1	1
Matanzas	.....	.....	.....	.....	1	.....	1
Pernambuco	1	.....	.....	.....	.....	.....	1
Porto Rico	.....	.....	.....	.....	.....	1	1
Progresso	.....	.....	.....	1	1	.....	1
Samana Bay	.....	1	.....	.....	.....	.....	1
St. Lucca	.....	.....	.....	.....	1	.....	1
St. Thomas	.....	.....	.....	1	.....	.....	1
Trinidad	.....	1	.....	.....	.....	.....	1
Total	28	26	18	5	11	26	114

INSPECTION OF SHIPPING IN PORT OF NEW ORLEANS, 1883.

NEW ORLEANS, November 1, 1883.

Dr. Joseph Jones, President Board of Health, State of Louisiana:

I respectfully submit the following report, as Deputy Inspector of Shipping for the port of New Orleans, from May 1 to November 1, 1883.

DATE—1883.	Number Vessels Inspected.	Number of Seamen.	Number of Passengers.	Total Seamen and Passengers.
May	73	1,636	271	1,907
June	65	1,285	340	1,625
July	50	1,032	272	1,304
August	43	908	230	1,138
September	58	1,570	490	2,060
October	62	1,740	240	1,980
Totals	351	8,171	1,843	10,014

All vessels along the river front and water-craft in the New and Old Basins have been found in a uniform cleanly condition, and the health of the men composing the crews of vessels in this port has been good. No case of contagious or infectious disease has occurred in the shipping up to date.

Very respectfully,

STANHOPE JONES, M. D.,
Deputy Inspector of Shipping Port of New Orleans.

ATCHAFALAYA QUARANTINE STATION—REPORT OF DR. WISE, 1883.

MORGAN CITY, LA., November 1, 1883.

To the President and Members Louisiana State Board of Health:

Gentlemen—I have the honor to submit the following report of my action at the Atchafalaya Quarantine Station during the past season:

On the fifth day of April last, in company with Dr. Joseph Jones, the President of the State Board of Health, I visited the Quarantine grounds, and together we selected a site for a warehouse and wharf, situated upon the school lands, the property of the state of Louisiana, upon the right bank of the Atchafalaya, near Wax Bayou. The plans for the same were approved, and the building erected the same month, together with a substantial wharf. These improvements were very necessary, as during the past few years the boatman at the station had no shelter, neither was there any provision made for the care of sick.

During the season I have issued permits to two hundred and thirty-three vessels, as will be seen in the tabulated statement hereto annexed.

But two vessels were detained at the Quarantine station during the past season, viz., the schooners Millie Williams and Mary E. Clarke, both from Tampico. No sickness occurred on board at any time from date of departure from Tampico until they were released. They were detained ten full days, thoroughly cleansed and disinfected.

One case of small-pox was removed from the tugboat S. C. Hall, from New Orleans. The case was isolated and provided with a nurse, as directed by the board. The man died on the third day.

I have found it impossible to collect the quarantine fees from vessels not quarantined. Many ship masters have expressed a willingness to pay nominal fees to cover expense of boarding, etc., but as I was not authorized to accept any other than full dues, it was declined.

The quarantine property is in good order, and I would recommend the employment of a keeper during the winter, otherwise the property may be carried away or destroyed.

A plain substantial fence is also necessary.

In conclusion, I desire to call your attention to the growing importance of this station. The rapidly increasing lumber trade with Mexico from this port will necessitate the exercise of great vigilance every season, and the same may be said of "Calcasieu Pass," the outlet of the Lake Charles region.

I append a tabulated statement of all vessels arrived during the past season, and an inventory of property, supplies, etc., on hand.

I am, gentlemen, very respectfully,

J. H. P. WISE, M. D.,
Resident Physician, Atchafalaya Station.

REPORT OF VESSELS ARRIVED DURING SEASON 1883.

MONTHS:	Steamships.	Schooners.	Total Vessels.	Total Tonnage.	Crew.	Passengers.	Total Number Persons.	TOTAL. Fees due.	Fees Collected.
May	23	24	47	18,447.84	867	304	1,171	$855 00	$7 50
June	25	18	43	18,552.07	863	309	1,172	862 50	.....
July	19	31	50	15,598.29	727	193	920	720 00	15 00
August	15	27	42	11,015.41	585	191	776	645 00	.....
September	9	14	23	6,096.45	283	104	387	302 00	.....
October	12	16	28	9,276.02	455	303	758	493 00	.....
Total	103	130	233	78,986.08	3,780	1,404	5,184	$3,877 50	$22 50

REPORT OF VESSELS QUARANTINED SEASON 1883.

DATE.	Name.	Class.	Where from.	Days out.	Bill health.	Crew.	Passengers.	Sanitary condition.	Remarks.
May 14	Millie Williams.	Schooner.	Tampico.	8	Clean.	7	2	Good.	Ten days.
June 25	Mary E. Clarke.	Schooner.	Tampico.	6	Clean.	6	12	Good.	Ten days.

INVENTORY OF MOVABLE PROPERTY AT ATCHAFALAYA QUARANTINE STATION, OCTOBER 31, 1883.

One yawl boat, in good repair.
One pair oars.
Two cot-beds.
Two furnaces.
Two iron pans.
One lot kitchen utensils.
One yellow flag (worn).
One piece yellow bunting.
Nine and one half barrels copperas.
Two barrels roll sulphur.
Thirty gallons carbolic acid.

I certify that the above is a correct inventory of movable property on hand at Quarantine Station.

J. H. P. WISE, M. D., Resident Physician.

REPORT OF W. H. CARSON, M. D., QUARANTINE INSPECTOR OF THE BOARD OF HEALTH OF THE STATE OF LOUISIANA, AT ENGLISH LOOKOUT, LA. (ON THE LOUISVILLE AND NASHVILLE RAILROAD AND ON EAST PEARL RIVER, THE SOUTHEASTERN BOUNDARY LINE OF THE STATE OF LOUISIANA.

NEW ORLEANS, La., October 5, 1883.

To the President and Members of the Board of Health, State of Louisiana:

Gentlemen—I have the honor to submit the following as my official report of the "Quarantine Season," commencing at English Lookout Station, on May 15, and ending October 1, 1883:

On the date of receiving my commission, May 14, 1883, I received the following written instructions from President Joseph Jones, with orders to execute them in obedience and in accordance with the powers of the Board of Health of the State of Louisiana.

1. Boarding and inspection of oil vessels entering English Lookout.

2. All vessels from infected ports must be directed to report to the Louisiana Quarantine Station, on Rabbit Island, Rigolets.

3. Dr Carson will report all violations of the quarantine laws of Louisiana to the President of the Board of Health. He will also communicate all facts of importance relating to vessels from infected ports included in the Governor's Proclamation, to Dr. Adams, Resident Quarantine Officer at Rigolets.

4. Dr. Carson will report promptly to the President of the Board of Health any entrance of a vessel from an infected port into the waters of Mississippi.

5. Dr. Carson will also hold supervision over the railroad trains, and allow no passengers or baggage from an infected port to enter Louisiana.

(Signed) JOSEPH JONES, M. D.,
President Board of Health, State of Louisiana.

In accordance with these instructions, twenty-four vessels were boarded, and their crews, numbering 114 men, were inspected up to the closing of the station. October 1, 1883

These vessels, the great majority of which were schooners, were engaged in the carrying of lumber from mills in the interior and adjacent to Pearl River (East) to foreign vessels lying in Mississippi Sound. The great danger to be feared was the possible intercourse or contact, direct or indirect, of these vessels with the infected shippiug undergoing quarantine at the Ship Island Quarantine Station. It is proper to state, however, that I never had any ground for suspicion that any such intercourse occurred or was probable during the administration of quarantine regulations by the United States Marine Hospital Service. Not withstanding, all vessels on their return were rigidly inspected and attended to before going up East Pearl River to the interior country.

None of these vessels engaged in lightering required any long detention, nor was there any case of sickness that came under my observation, and I am reliably informed that no disease of a contagious or infectous nature occurred in the interior country that could be attributed to their intercourse with outside shipping.

It is to the credit of Messrs. Poitevent & Favre, of Pearlington, Miss., extensive mill owners on East Pearl River, that they gave every assistance in the furtherance of our quarantine regulations, and whose vessels were at all times extremely careful to avoid ships on the outside whose health status and ports of clearance were not known. I was at all times well informed as to name, location and health of the vessel that they were having intercourse with.

On tho seventh of July, 1883, a detail of two sanitary officers was ordered by President Jones to report for duty at English Lookout, and under the following instructions:

1. To aid Dr. W. H. Carson in the execution of the following labors ordered by the board:

(a). Fumigation of vessels.

(b). Inspection of all trains passing from Mississippi into Louisiana.

The inspectors should, in order to avoid interrupting travel, proceed on the out-bound train as far as necessary, say to Pascagoula, Biloxi, or Bay St. Louis, and return with the train bound for New Orleans and inspect the passengers.

(c). When passengers have been subjected to proper quarantine detention at the regular quarantine station, and their baggage fumigated, they may be allowed to proceed to New Orleans at the discretion of the quarantine officer, said discretion being exercised as to the efficiency of the quarantine and actual state of the passenger.

(d). The Board of Health of the State of Louisiana demand that the inspector at English Lookout, exercise the utmost vigilance, and allow no passengers or seamen to enter the State of Louisiana, who have left an infected port, in any vessel, whether infected or not, and without having been subjected to quarantine.

(e). Furnish this board with written weekly, and if necessary, daily reports.

Also telegraph at once any evasion of quarantine and any point of interest.

(Signed) JOSEPH JONES, M. D.,
President Board of Health.

In accordance with these instructions all trains, both passenger and freight were subjected to a most thorough inspection. The evening express was boarded at Bay St. Louis, Miss., about thirty miles distant and beyond English Lookout, thus affording the quarantine officials ample time to satisfactorily examine a train.

In this branch of the service we were at all times courteously and efficiently assisted by the railroad authorities, in their respective departments, of the Louisville & Nashville Company. On several occasions passengers by rail, en route to New Orleans, were discovered as having come from proscribed ports and localities, and, with but one exception, left the train graciously to seek, for the time being, some more hospitable and appreciative locality.

All morning trains were inspected at the quarantine station (English Lookout); the way bills, the cars and caboose of freight trains all received a close examination.

It cannot be doubted, from the above retrospect, that the selection of this locality as a quarantine inspection station was most judicious.

The satisfactory and gratifying results of the season just closed, as well as its previous though shorter season in 1882, the year of its inaugural, go far to substantiate its importance.

In conclusion, it affords me pleasure to commend the promptness, energy and intelligence manifested by your detail of sanitary officers L. D. Allen and Bohner in the discharge of their fatiguing duties.

I also take occasion to specially acknowledge the manifold courtesies on the part of Captain A. V. Ward, the United States customs officer at English Lookout, La., with whom I had pleasant quarters during the season, and to whom I was oftentimes indebted for assistance in the boarding of vessels.

I am, sir, very respectfully, your obedient servant;

W. H. CARSON, M. D.,
Quarantine Inspector.

INFECTED VESSELS FROM RIO.

The discharge of the cargoes of coffee ships from Rio, was conducted by order of the Board of Health during the years 1880, 1881, 1882 and 1883. This course was necessitated by the presence of yellow fever in Rio during this period, as will be seen from the report of the United States Consul General of Rio.

CONSULATE GENERAL OF THE UNITED STATES.
Rio de Janeiro, Brazil, January 30, 1884.

Dr. Joseph Jones, President State Board of Health, New Orleans -

Dear Sir—Your esteemed favor of October 12, was duly received as also a copy of the annual report of Board of Health Louisiana, 1882-3, for which I am very thankful; but I would be glad of a copy for the succeeding year. I delayed sending your return of deaths from yellow fever, that I might give them complete for 1883; and I now beg to hand you a table showing the number of deaths from that disease in this city each year since and including 1850. However, I am able to give them for each month only from and including 1873. And the deaths from all causes, I am able to give only from and including the year 1872. If I can secure any official medical publications I will send them to you. I send you regularly, a monthly report of the mortality in this city, which I hope is duly received.

Very respectfully, yours, C. C. ANDREWS, Consul General.

REPORT OF DEATHS FROM YELLOW FEVER AT RIO DE JANEIRO, EMPIRE OF BRAZIL.

The following table gives the number of deaths from yellow fever, 1850-1883, inclusive (thirty-four years), and shows the same by months since and including 1872; also shows the total number of deaths from all causes since and including 1879:

U. S. CONSULATE GENERAL,
Rio de Janeiro, January 8, 1883.

Years.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total from all Causes.	Total, Yellow Fever.
1850	..	..	..	..	..	..	..	..	..	..	..	..	..	4160
1851	..	..	..	..	..	..	..	..	..	..	..	..	..	475
1852	..	..	..	..	..	..	..	..	..	..	..	..	..	1943
1853	..	..	..	..	..	..	..	..	..	..	..	..	..	853
1854	..	..	..	..	..	..	..	..	..	..	..	..	..	21
1855	..	..	..	..	..	..	..	..	..	..	..	..	..	..
1856	..	..	..	..	..	..	..	..	..	..	..	..	..	..
1857	..	..	..	..	..	..	..	..	..	..	..	..	..	1425
1858	..	..	..	..	..	..	..	..	..	..	..	..	..	..
1859	..	..	..	..	..	..	..	..	..	..	..	..	..	500
1860	..	..	..	..	..	..	..	..	..	..	..	..	..	1249
1861	..	..	..	..	..	..	..	..	..	..	..	..	..	247
1862	..	..	..	..	..	..	..	..	..	..	..	..	..	12
1863	..	..	..	..	..	..	..	..	..	..	..	..	..	..
1864	..	..	..	..	..	..	..	..	..	..	..	..	..	..
1865	..	..	..	..	..	..	..	..	..	..	..	..	..	..
1866	..	..	..	..	..	..	..	..	..	..	..	..	..	..
1867	..	..	..	..	..	..	..	..	..	..	..	..	..	..
1868	..	..	..	..	..	..	..	..	..	..	..	..	..	..
1869	..	..	..	..	..	..	..	..	..	..	..	..	..	272
1870	..	..	..	..	..	..	..	..	..	..	..	..	..	1117
1871	..	..	..	..	..	..	..	..	..	..	..	..	..	3
1872	1	..	..	..	1	3	1	..	1	8	16	71	..	102
1873	889	1087	008	575	180	83	20	3	2	5	2	13	..	3467
1874	16	51	168	297	165	69	25	5	1	6	10	13	..	826
1875	23	168	385	301	244	104	36	10	5	4	3	8	..	1291
1876	122	319	1357	946	375	129	41	12	6	4	4	2	..	3317
1877	3	10	39	23	22	11	4	15	7	8	18	53	..	213
1878	77	326	264	99	42	19	18	4	8	10	2	11	..	880
1879	127	204	226	160	69	53	42	26	11	8	9	18	10,556	950
1880	150	489	465	268	103	48	18	8	5	5	10	14	11,057	1583
1881	31	54	43	25	24	13	13	6	1	2	4	3	9,875	219
1882	2	3	11	13	6	3	1	..	..	..	..	..	10,365	39
1883	8	84	325	542	274	107	65	31	12	5	12	29	13,992	1494

C. C. ANDREWS, Consul General.

With the terrible experience of the past, it is evident that in a city situated on the borders of the Gulf of Mexico, between the twenty-ninth and thirtieth degrees of north latitude, separated by only a few hours' steam navigation from the great centres charged with the perennial development of yellow fever, quarantine laws must be rigid, and must be adapted to the geographic, topographic and climatic conditions and relations.

The first object of importance in this inquiry relates to the geographical position, climate and medical history of Rio de Janiero, as far as it relates to yellow fever.

The city of St. Sebastian, or, as commonly called, the city of Rio de Janeiro, dates its foundation from about the middle of the sixteenth century. It is now the oldest as well as the largest city in America south of the equator, and is computed to have at the present time a population of 330,000 inhabitants.

This city, the capital of Brazil, is situated in latitude 22° 55′ south, and longitude 43° 09′ west from Greenwich, on the western shores of an extensive bay, the extreme diameter of which is about twenty miles, more or less. This sheet of water is pear-shaped, and broken in many places by islands of considerable size. The background is formed of precipitous mountains, varying in height from 1500 to 3000 feet, and clothed with the luxuriant vegetation of the tropics. Its geographical position makes it a commercial centre for trade with India, Oceanica, South America and Europe. Ships of almost every nation are found, in the course of a year, landing or unloading cargoes at this port.

The site of the city is a marshy plain, studded by lofty hills of granite or granitic gneiss. When the city was commenced, on the Punta Calabouca, the vicinity was almost constantly overflowed by pools of stagnant water, which was supposed to be prejudicial to the general health of the population. Intermittent fever prevails at all seasons along the shores and upon the islands of the bay, especially among those of the population who are imperfectly nourished and sheltered. Occasionally it is severe and fatal in its effects.

Placed immediately beneath the tropic of Capricorn, Rio de Janeiro is under all the climatic influences common to equatorial and intertropical regions.

The granite hills around the city, as well as the expanded surface of the bay, constitute reflectors of the caloric rays which augment the temperature and humidity. The atmosphere is more or less impregnated with vapors, and sometimes covered with clouds, which hang about the mountain peaks, and cause on some days a suffocating heat, called by Brazilians *mormaco*—a sultry time—which is so debilitating as to deprive one of the appetite for intellectual or muscular exercise, as well as the powers of digestion, and lead to a belief that the temperature is much higher than indicated by the thermometer.

CLIMATE OF RIO DE JANEIRO.

Meteorological observations made during thirty years by Benito Sanchez Dorta, in the last century, show that the annual mean temperature of Rio de Janeiro was 73°04, whilst the more recent hourly observations of A. M. de Mello, made during the present century, show an annual average increase of 2°11, the temperature for the year being now 75° 151.

This augmentation of the annual mean temperature is attributed to the clearing of the forests in the interior and in the vicinity of the city, which not attracting rain as frequently as formerly, the atmosphere and earth are not washed as often by summer showers; besides, the land wind not receiving exalations from the multiplicity of the leaves, the air is not so much freshened as when the forests were abundant, and for this reason it is supposed that the temperature has been greater.

The mean annual temperature of New Orleans is 69°48.

The mean summer temperature of New Orleans is 82° 53; of Havana, 84° 2; of Vera Cruz, 81°5.

The average spring and winter temperature of those places in which yellow fever is said to be indigenous or perennially present, are as follows:

Havana, Cuba: Spring, 75° 7; winter, 68° 4; Kingston, Jamaica: spring, 78° 1; winter, 76° 1; Matanzaa, Cuba: spring, 78° 9; winter, 73° 4; Nassau: spring, 77° 7; winter, 70° 7; Rio de Janeiro: spring, 74° 7; winter, 70° 1; Vera Cruz, Mexico: spring, 77° 8-78; winter, 77° 79-8.

In New Orleans, on the other hand, the average temperature of spring is 69° 58, and 12 degrees above that of winter, 57° 04.

It will be noted from the preceding data that the annual mean temperature of New Orleans is about six and a half degrees colder than that of Rio de Janeiro. The winter in New Orleans is marked by far lower temperature, the average temperature being 57° 04, while the average mean temperature of the winter in Rio Janeiro ranges above 70° 01. The winters of New Orleans are invariably cold enough to arrest yellow fever.

On the other hand, the winters of Rio de Janeiro are not sufficiently severe to arrest yellow fever. Hence this disease may prevail during every month of the year, as it does in Havana, the climate of both places being in their relations to health and yellow fever similar.

MORTALITY OF THE CITY OF RIO DE JANEIRO FROM YELLOW FEVER DURING THE YEARS SPECIFIED.

	1850.	1851.	1852.	1880	1881.
January	11	243	150	133	31
February	37	70	176	484	54
March	60	303	142	468	44
April	165	403	153	274	23
May	98	325	82	105	24
June	28	189	73	56	13
July	9	93	26	No report.	9
August	7	62	29	9	5
September	4	62	7	4	1
October	19	37	7	No report.	2
November	26	47	6	No report.	No report.
December	8	109	2	14	No report.
Total	475	1943	853	1546	206

The reports for 1882 have not yet been completed, owing to the length of time necessary for their transmission; but to the date of the last report, in July, deaths from yellow fever have occurred during every month.

It follows from the preceding facts that yellow fever prevails during every month in the year in Rio de Janeiro.

It is evident that during the past three years the port of Rio de Janeiro has been dangerously infected with yellow fever, and that deaths from yellow fever have occurred in every month.

Dr. Candido asserts that the dwellings of Rio de Janeiro, in a majority of instances, are better adapted to Lapland or Greenland than to the tropic region.

They are erected in rows, often upon a level below that of the streets and gardens. Their dimensions are small. The roofs of tile are low; often a wooden floor rests upon a damp soil, and is constantly in a state of decay. They are badly lighted and illy ventilated.

In the houses of the opulent are spacious saloons which are reserved for the reception of guests, while the wealthy inhabitants sleep in a close alcove covered with mosquito nets or bars. The walls are covered with paper which retains the humidity of the air.

In the greatest yellow fever epidemic of this city, New Orleans was without a Board of Health, and the quarantine restrictions practically valueless; therefore, the exact origin of this epidemic has been a matter of dispute, but it was established by the testimony of Mr. Lonsdale, one of the largest dealers in coffee, that nearly all the vessels that arrived here from Rio, after the first of April, 1853, had suffered more or less from yellow fever after leaving that port.

Thus the ship Siri, Capt. Higgins, arrived at New Orleans on the tenth of May, and took position at post 13. The captain had lost his wife, son and some of the crew before leaving Rio. The ship Mary Kendall arrived from Rio on the twenty-fifth of June, via Jamaica, where she had put in on account of distress from yellow fever; she left Rio on the twenty-fifth of January.

The origin of the epidemic has also been referred to the ship Camboden Castle, from Kingston, Jamaica, which arrived at New Orleans on the seventeenth of May, 1853, and took position at post 27. It is evident, however, that the arrival of the infected ship Siri, from Rio de Janeiro, was some days in advance of the Camboden Castle.

The public safety demands that cargoes from this port should be deemed infected, and as subject to fumigation, aeration or disinfection.

The climate of Rio de Janeiro cannot enjoy the reputation of being very salubrious, on account of its tropical position, the nature of the locality and the mode in which the houses of the masses of the people are built. Paludal fevers, of the intermittent and remittent form, sometimes complicated with ataxic or adynamic phenomena, cause the greater part of the mortality, principally after the evaporation of the waters of summer, ordinarlly in the months of February, March and April.

A comparison of the present sanitary condition with that of more remote periods shows an increase of phthisis, diarrhœa, scarlatina, typhoid, pernicious and malarial fevers and yellow fever. Some practitioners affirm that yellow fever is endemic in Rio de Janeiro, modified by the condition of the atmosphere.

THE INTRODUCTION OF YELLOW FEVER FROM RIO DE JANEIRO IN 1880, BY THE BARK EXCELSIOR.

The circumstances connected with the appearance of yellow fever upon the Swedish bark Excelsior have been fully recorded in the annual report of the Board of Health for 1880, pp. 34-43.

The circumstances of special interest in connection with the present inquiry are briefly these:

The bark Excelsior sailed from Rio on the tenth of May, 1880, with a cargo of 3600 sacks of coffee, and a crew consisting of three officers and nine seamen. She arrived at the Mississippi Quarantine Station on June 24, having been on the voyage about forty-six days. She was released from quarantine and arrived at New Orleans on the fifth of July. No case of sickness occurred on the voyage or at the Mississippi Quarantine Station. About sixty hours after the vessel reached New Orleans, and after the discharge of her cargo, James Kenney, one of her crew, was attacked with yellow fever and died in the Touro Infirmary, after throwing up black vomit, on the eleventh of July.

The case was not reported to the Board of Health until the tenth of July, when the crew were mustered and ordered to remain on board.

The bark was forcibly returned to the Mississippi Quarantine Station, by order of the Board of Health.

Cases of yellow fever occurred on board the Excelsior on the twelfth, thirteenth and fourteenth of July, and deaths from this disease occurred in the Quarantine Hospital on the seventeenth and eighteenth of July.

The Board of Health retained the Excelsior at Quarantine Station for over one month after the removal of the last case from the vessel on the fourteenth of July.

It is but just to conclude that the prompt action of the Board of Health in sending the Excelsior back to the Mississippi Quarantine preserved the city of New Orleans and the Mississippi Valley from an epidemic of yellow fever in 1880. Nevertheless, it is true that never before in the history of this country were such efforts made to create alarm in the surrounding States.

The vindication of the health and good sanitary condition of New Orleans, and its freedom from yellow fever during 1880, are matters of history, as well as the illegal and unconstitutional usurpation of power by agents of the National Board of Health, prohibiting the shipment of coffee from New Orleans.

In like manner the rigid quarantine maintained by the Board of Health during 1880, 1881, 1882, and 1883 against various ports of the Antilles and along the coast of Mexico, Central and South America, has been fully justified by statistics.

Dr. Mainegra, of New Orleans, who was commissioned by Surgeon-General Hamilton to reside at Vera Cruz during the summer of 1883, upon the recommendation of the President of the Louisiana Board of Health, has furnished the following valuable statistics with reference to the presence and prevalence of yellow fever in Vera Cruz, Mexico, during the past three years:

MORTALITY OF THE CITY OF VERA CRUZ DURING THE YEARS 1881, 1882 AND 1883, FROM THE FOLLOWING FEVERS:

Month.	1881.				1882.				1883			
	Yellow Fever.	Pernicious Fever.	Remittent Fever.	Gastro Ent. Fever.	Yellow Fever.	Pernicious Fever.	Remittent Fever.	Gastro Ent. Fever.	Yellow Fever.	Remittent Fever	Pernicion Fever.	Gastro Ent. Fever.
January	28	4	1	2	1	5	2	1	5	4	2	1
February	21	6	3	3	1	4	....	2	3	9	....	1
March	27	3	1	2	2	4	....	5	7	....	1	1
April	28	8	3	6	1	3	....	2	16	7	1	5
May	94	11	1	10	5	3	1	3	90	*d*	4	1
June	234	19	4	3	11	9	1	4	261	9	6	1
July	132	16	4	7	7	8	5	3	200	10	4	7
August	39	12	4	5	14	11	5	5	67	10	4	....
September	22	9	2	4	8	10	7	....	34	....	....	....
October	24	14	5	1	5	9	....	1	29	....	....	....
November	18	15	1	3	5	6	....	7	....	....	....	....
December	4	6	3	2	12	4	....	3	....	....	....	....
Totals	671	123	32	48	72	76	21	36	*712	*53	*20	*17

*Incomplete.

The nature of the quarantine labors of the Board of Health of the State of Louisiana, during the years 1880, 1881, 1882 and 1883, have been illustrated by the preceding statistics, and they may be viewed in a more comprehensive manner by the consideration of the following abstract of the quarantine reports:

TABLE GIVING THE NUMBER AND CLASS OF THE VESSELS INSPECTED AT THE MISSISSIPPI QUARANTINE STATION DURING FOUR YEARS, 1880, 1881, 1882 AND 1883.

YEARS.	Steamships.	Sailing Ships.	Barks.	Brigs.	Schooners.	Steam Tugs.	Total.
1880	614	121	356	39	141	.....	1,271
1881	541	92	244	33	132	.....	1,042
1882	615	53	160	28	142	.....	998
1883	687	46	194	34	157	7	1,125
Total	2,457	312	954	134	572	7	4,436

This large fleet, numbering 4436 vessels (more than one-half or 2457 of which were large ocean-going steamships), exceeding 8,000,000 (eight million) tons, were inspected by the officers of the Board of Health at the Mississippi Quarantine Station, together with their passengers, crews and cargoes, during the years 1880, 1881, 1882 and 1883.

During this period not less than 100,000 seamen and passengers passed through this station.

Notwithstanding the prevalence of yellow fever in Vera Cruz, Havana and Rio during this entire period, and notwithstanding the prevalence of yellow fever at Brownsville, Texas, and at Pensacola in 1882, and at the Naval Reservation and at Brewton, Alabama, in 1883, and notwithstanding the presence of yellow fever at the Mississippi Quarantine Station in 1880 and in 1883, New Orleans and the Mississippi Valley have been free from this terrible scourge.

During the same period (1880, 1881, 1882 and 1883) 479 vessels from ports infected with yellow fever, or suspected of being infected, were held in quarantine, disinfected and fumigated.

At the Atchafalaya Station alone 1,064 vessels (about one-half of which were ocean-going steamships), with about 20,000 souls, crew and passengers, were inspected. At the Rigolets Quarantine Station about 4338 vessels, chiefly schooners, with about 24,000 seamen and passengers, were inspected during the years 1880, 1881, 1882 and 1883.

During the period specified, therefore, the Board of Health of the State of Louisiana, through its faithful, experienced and energetic officers, inspected in round numbers about 10,000 vessels, which carried not less than 150,000 seamen and passengers.

The grand conclusions which we reach from these practical operations are:

1. Yellow fever is not indigenous to New Orleans.

2. Yellow fever can be excluded from New Orleans and the Mississippi Valley by a rigid and effective quarantine.

3. Quarantine, to be effective, must embrace not merely inspection and detention, but discharge of infected cargoes thorough ventilation and fumigation.

MAINTENANCE OF THE QUARANTINE LAWS OF THE STATE OF LOUISIANA.

RELATIONS OF NATIONAL AND STATE QUARANTINE—INTERSTATE QUARANTINE—RE-ESTABLISHMENT OF THE MARINE HOSPITAL AT NEW ORLEANS—FLOATING HOSPITAL IN THE MISSISSIPPI RIVER FOR THE ISOLATION AND TREATMENT OF CONTAGIOUS AND INFECTIOUS DISEASES.

HISTORY OF QUARANTINE IN LOUISIANA.

Resistance of the Maritime Associations of New Orleans to the Quarantine Laws of Louisiana—Relations of the Quarantine Established by the State of Louisiana in 1855 *to Public Health and Commerce—Progress of Population and Commerce in Louisiana During the French Domination,* 1683 *to* 1763, *During Which No Quarantine Existed—Progress of Commerce and Population in Louisiana During the Spanish Domination,* 1763 *to* 1802, *During Which Period the Province Was Without Quarantine Restrictions and Laws—Progress of Commerce and Population and Outline of Epidemic Visitations in Louisiana During the American Domination,* 1803 *to* 1883, *in Which Quarantine Has Been Established and Maintained at Various Periods—General Conclusions—History of Quarantine* 1855 *to* 1883—*History of the Epidemic of Yellow Fever of* 1878 *in the Mississippi Valley—Resistance of the Quarantine Laws of Louisiana by Morgan's Louisiana and Texas Steamship and Railroad Company.*

DECISION OF THE SUPREME COURT OF LOUISIANA SUSTAINING THE BOARD OF HEALTH AND THE QUARANTINE LAWS AND INSPECTION FEES OF THE STATE OF LOUISIANA.

RELATIONS OF NATIONAL AND STATE QUARANTINE.

The important character of the issues involved in the controversy between the State and National Boards of Health will best be shown by the following extracts from the proceedings of the Board of Health at the regular meeting March 9, 1882.

PROPOSED CONGRESSIONAL ACTION ON THE SUBJECT OF QUARANTINE AND THE NATIONAL BOARD OF HEALTH.

At the regular meeting of the Board of Health, March 9, 1882, the President submitted the following correspondence:

OFFICE BOARD OF HEALTH, STATE OF LOUISIANA,
STATE HOUSE, New Orleans, February 14, 1882.

Hon. J. Floyd King, House of Representatives, Washington, D. C.:

Dear Sir—I would respectfully request the honorable Representative from Louisiana to favor this board with the complete text of his "bill relating to quarantine, the National Board of Health, and the protection of the United States from yellow fever." I quote from newspaper reports, and therefore may be in error as to the title of the bill of the Honorable Representative.

The members of Congress representing the State of Louisiana will confer a favor and promote the cause of sanitary knowledge by forwarding to the President of the Board of Health all bills discussing and papers relating to domestic and foreign quarantine.

An early reply is respectfully requested.

Your obedient servant,
JOSEPH JONES, M. D.,
President Board of Health, State of Louisiana.

HOUSE OF REPRESENTATIVES, Washington, February 27, 1882.

Joseph Jones, M D., President Board of Health, State of Louisiana, New Orleans:

Dear Sir—I have mailed you the bills that are before the Committee on Public Health, in accordance with your request. Please notify me if they reach you. I will be glad to get your views on any points in any of them.

Very respectfully yours,

J. FLOYD KING.

OFFICE BOARD OF HEALTH, STATE OF LOUISIANA,
STATE HOUSE, New Orleans, March 4, 1882.

Hon. J. Floyd King, House of Representatives, Washington, D. C.:

Dear Sir—I have the honor to acknowledge the receipt of your favor of the twenty-seventh of February, together with the accompanying bills numbered respectively 3032, 4043 and 4290.

In accordance with your request that I should give my "views on any points in any of them," I beg leave respectfully to submit the following:

1. The bill (Forty-seventh Congress, first session, H. R. 3032) entitled a bill to amend an act entitled "An act to prevent the introduction of contagious or infectious diseases into the United States," introduced by Mr. Van Aernam, January 16, 1882, and the bill 4043, entitled "A bill to prevent the introduction of contagious and infectious diseases into the United States," introduced by Mr. Van Aernam on the sixth of February, 1882, are essentially the same, with the exception that the latter has the following additional clause under section two: "But if it shall appear to the President that such detail cannot be conveniently made, and such decision shall be notified by him to such Board, the latter shall be authorized to appoint such medical officer at its discretion, and if so appointed his salary shall be defrayed from the appropriation under its control" The phraseology of section three is altered, whilst the intent and force remain the same. The two bills of Mr. Van Aernam may be regarded as almost identical.

The bill (Forty-seventh Congress, first session, H. R. 4290) introduced by Mr. King on the thirteenth of February 1882, and entitled a bill to amend an act entitled "An act to prevent the introduction of contagious or infectious diseases into the United States," is essentially the same in language and spirit with the bills of Mr. Van Aernam. We fail to discover any essential difference between the bill of Mr. King, introduced on the thirteenth of February, and the bills previously introduced by Mr. Van Aernam on January 16 and February 6, 1882.

I have been thus explicit in order that the observations on the spirit of one bill will apply to all.

2. The bills of Mr. Van Aernam and of Mr. King have evidently been drawn up in favor of the National Board of Health for the enlargement of its powers, and for the subjection of the entire quarantine system of the United States and the subordination of all State Boards of Health and all State quarantine establishments to the control of the said National Board of Health.

The bills of Mr. Van Aernam and Mr. King place the President of the United States under the control of the National Board of Health in certain sanitary matters, and erect the said board into an arbitrary and despotic tribunal, clothed with plenary powers to pass its opinions upon the quarantine regulations of any State, port or municipality; and induce the President of the United States to order the legally constituted authorities appointed and elected, and commissioned by the people of the individual State to make, adopt, and enforce such rules and regulations as the National Board of Health may present. If the sanitary authorities of the States and municipalities should exercise the rights of freemen, as conferred upon them by the constitution of the United States or by the will of the people, and fail or refuse to enforce the rules and regulations promulgated for their instruction and guidance by the National Board of Health, then the President shall detail an officer or appoint a proper person for that purpose.

3. The bills of Messrs Van Aernam and King prescribe rules and regulations for foreign shipping in foreign ports, and subject all vessels to a fine, not to exceed $1000, (one thousand dollars), which do not conform with the provisions of these bills at the *ports of departure.* Whether the jurisdiction of the United States extends in sanitary matters to all ports, of all the world, is a question of maritime law. Whether the United States will be rich enough to supply the vast sums required to maintain sanitary inspectors, conduct fumigations and enforce sanitary rules in all the chief ports of the world, must be ultimately determined, by the people who bear the burdens of taxation.

1. Section five of the bills of Messrs. Van Aernam and King places the regulation of quarantine in the hands of the National Board of Health and effectually abolishes State quarantines. The effort is thus made to have Congress pass a law delegating certain powers to the President of the United States and to the National Board of Health, which have not been embodied in the constitution of the United States.

As is well known to the learned and able representative of Louisiana, that the powers of the President of the United States are specially laid down in article two of the constitution, and it is evident that no power whatever is conferred upon him to control or intermeddle with the quarantine and sanitary affairs of the individual States. The National Board of Health as now constituted, was the creation of President Hayes, and derives its existence from a special act of Congress, and not from the votes of the people; the creature, therefore, cannot be greater than the creator, and the assumption by Congress of powers not conferred by the constitution of the United States is subversive of the inalienable rights and liberties of the people. The plea that such measures should be sustained because they are dictated for the preservation of the public health will not bear examination for if the States are deprived of their rights of local government and self-protection in sanitary and quarantine matters, they may in like manner be deprived of all civil rights.

In section four of the constitution of the United States, a republican form of government is guaranteed to every State comprising the Union. If the organic acts of individual States relating to sanitation and quarantine are to be set aside according to the opinions of the creatures of Congress or of the President, the Republic has been transformed into a centralized despotism.

5. The spirit, as well as the letter of the bills of Messrs Van Aernam and King dispose summarily of the question as to the absolute power of Congress to deal with quarantine in all its bearings as between foreign nations and domestic ports and individual States. Has Congress the power to pass sanitary and quarantine laws intended to act with equal and uniform power in every State and city in the Union, and controlling the foreign and domestic commerce of every port?

It does not appear that Congress has the power to pass such laws.

We find in Brightly's Digest, p. 810, under the head of Quarantine and Health Laws, an act of Congress passed February 25, 1779. By the third section of this act it is provided that "there shall be purchased or erected, under the orders of the President of the United States, suitable warehouses, with wharves and inclosures, where goods and merchandise may be unladen and deposited from any vessel that may be subject to a quarential or other restraint, pursuant to the health laws of any State as aforesaid, at such convenient place or places therein as the safety of the public revenue and the observances of such health laws may require."

It is evident that this provision has reference to the safety of the revenue and not to the enforcement of quarantine law. That the subject of quarantine is held to be a State and not a United States matter

will appear evident from the whole tenor of this law. Thus the first section provides that the quarantine laws of the States shall be observed by the Federal officers; and that the Secretary of the Treasury is authorized to extend the time for making entries, etc., when a conformity to such health laws shall require it. Section two provides that vessels prohibited by the health laws of any State from coming to at ports of delivery, may unload elsewhere; the cargo to be warehoused, and special permits granted, etc. Sections four, five, six and seven, provide for the removal of Custom-house officers, prisoners, public officers, and the Supreme Court from unhealthy to healthy places, and section eight provides that the costs of such removal shall be reported to Congress.

Throughout the whole of this law it is evident that the authority of the States to enact quarantine laws is fully recognized. The injunction it contains upon Federal officers to aid in the execution of such laws confirms and strengthens this view.

In the case of Gibbons vs. Ogden (Wheaton's Reports, vol. 9) Mr. Webster, in his opening argument, says: "When, until now, have they (the States) interfered with the navigation of the country? The pilot laws, the health laws, or quarantine laws, and various regulations of that class which have been recognized by Congress, are no arguments to prove, even if they are to be called commercial regulations (which they are not) that other regulations, more directly and strictly commercial, are not within the power of Congress." "The truth was," he thought, "that all these things were, in their general character, rather regulations of police than of commerce, in the constitutional understanding of that term. Quarantine laws, for example, may be considered as affecting commerce, yet they are in their nature health laws. In England we speak of the power of regulating commerce as in Parliament, or the King as arbiter of commerce, yet the city of London enacts health laws. Would any one infer from that circumstance that the city of London had concurrent power with Parliament or the Crown to regulate commerce? Or that it might grant a monopoly to navigate the Thames? While a health law is reasonable it is a health law, but if, under color of it, enactments should be made for other purposes, such enactments might be void."

Mr. Emmett agreed with Mr. Webster that quarantine laws are not within the competency of Congress. The Attorney General, Mr. Wirt, viewed quarantine laws as police and not commercial regulations.

Chief Justice Marshall delivered the opinion of the court, and referring to the arguments of counsel drawn from the nature of the inspection laws, quarantine laws, etc., he says (idem, p 203): "They form part of that immense mass of legislation which embraces everything within the territory of a State not surrendered to the general government; all which can be most advantageously exercised by the States themselves. Inspection laws, quarantine laws, health laws of every description, as well as laws for regulating the internal commerce of a State, and those which respect turnpike roads, ferries, etc., are component parts of the same."

"No such general power over these subjects is granted to Congress, and consequently they remain subject to State legislation,"

These opinions of the most eminent legal minds of the United States seem fully to settle the question as to the source from whence quarantine laws must emanate.

6. The letter and the spirit of the bills of Messrs. Van Aernam and King are in direct opposition to article four, section one, of the Constitution of the United States, which ordains that "Full faith and credit shall be given in each State to the public acts, records and judicial proceedings of every other State. And the Congress may, by general laws, prescribe the manner in which such acts, records and proceedings shall be proved and the effect thereof." Constitution of the United States of America, article four, section one.

The Legislature of Louisiana, as the representntive of the people of this State, has passed organic acts establishing a Board of Health, clothed with certain powers, for the regulation of quarantine and the protection of the State against the introduction of foreign pestilence.

The President and Congress of the United States are bound by the constitution to give full credit and support to the acts of the Legislature of Louisiana, which in no manner violate the constitution of the United States.

I hope that the honorable Representative from Louisiana will pardon the frank and earnest manner in which I have met his request to express my views with reference to the bills relating to quarantine and the National Board of Health now before Congress.

I hold it to be the duty of the Representatives in Congress to sustain the will of the people of Louisiana as expressed in the organic acts of her General Assembly. The Board of Health should be the first to acknowledge any just or good work or measure for the perfection of the sanitary and quarantine affairs of Louisiana by her Representatives in Congress.

It is well known that previous to the recent civil war the learned and patriotic Representatives in the national halls accomplished much good for the State of Louisiana and for the entire Mississippi Valley by securing from Congress a liberal appropriation for the erection of a commodious fireproof warehouse at the Mississippi Quarantine Station; but subsequently to this great calamity the labors of the honorable Representatives of this province have as yet yielded no result that has tended to strengthen the hands of those charged by the laws of the State with the conduct of her sanitary and quarantine affairs.

It is but too true that since the civil war the legislation and decisions of the United States Courts have tended to weaken and derange the quarantine system of Louisiana, and to strengthen the hands of those who, for mercenary reasons, oppose the legislative enactments for the exclusion of foreign pestilence.

With great respect I have the honor to remain your obedient servant,

JOSEPH JONES, M. D.,
President Board of Health, State of Louisiana.

A true copy from the minutes of the meeting of the Board of Health, State of Louisiana, held March 9, 1882.

S. S. HERRICK, M. D., Secretary.

INTER-STATE QUARANTINE.

The President of the Board of Health has, at various times during the existence of the present Board of Health strenuously advocated:

The passage of a joint ordinance by the Board of Health and City Council, imposing severe fines upon any railroad corporation or official, and upon any captain or officer of a steamboat, who shall bring within the limits of New Orleans any case of small-pox or other contagious disease. The process should be so simple and withal so summary, that parties bringing small-pox or any other contagious disease within the limits of New Orleans, should be immediately arrested and punished. Similar laws should be enacted by

the Legislature for the entire State, thus protecting Louisiana from the contagious diseases of surrounding States. No State in this Union has been more exposed to the pestilences of surrounding States, cities and countries than Louisiana, and no State has been more generous or noble in her ministrations to the sick.

The vast burden which has been imposed upon the State of Louisiana, and more especially upon the medical profession of New Orleans, in virtue of the position of this State at the mouth of the Mississippi River, and in virtue of the vast number of strangers, merchants and emigrants, passing this gate-way of the Mississippi Valley is shown by the following facts:

During the past forty-five years Louisiana has cared for and treated in the Charity Hospital a grand total of 340,411 sick; of this vast number, foreign countries furnished 290,128, and the various States of the Union, 80,289; England contributed 15,907, France 19,788, Germany 43,435, Prussia 6,880, Scotland 5,432, Spain 3777, Sweden 2,350, Switzerland 4,649, Canada 2,693, Ireland 137,099 patients to the Charity Hospital. Total from these countries, 252,945.

During this period Louisiana furnished only 17,013 patients to the Charity Hospital. Louisiana, in addition to the 260,128 foreigners (during the period specified, 1830-1880), has cared for 53,570 sick and destitute poor within the walls of Charity Hospital, the vast proportion of which came from such States as Alabama, Ohio, Kentucky, Iowa, Pennsylvania, New York, North Carolina, Mississippi, Tennessee and Missouri; 11,611 natives of New York and 7,462 natives of Pennsylvania have been treated within the Charity Hospital.

Ireland alone has furnished eight times more patients to the Charity Hospital than Louisiana.

If the annual cost of maintaining the Charity Hospital is placed at $100,000, then the total amount expended by the State of Louisiana in caring for and treating the sick and burying the dead of this grand total of 340,411 human beings, from all countries and from all States, was $4,500,000. Of this amount the natives of Louisiana received about one-twentieth, or about $225,000, while the natives of foreign countries and of the surrounding States composing the American Union received $3,225,000.

In view of the preceding facts illustrating at once the vast mass of human sickness and suffering which has been relieved by the State of Louisiana, so ably represented by her self-sacrificing and learned physicians, it is surely remarkable that the surrounding States should strive incessantly to injure the fair name of Louisiana, and more especially of the members of the medical profession, by reiterating the slanders that the existence of pestilence in New Orleans has been repeatedly ignored for the purpose of promoting the needs of commerce; and it is still more astounding that men claiming to represent Louisiana in sanitary and quarantine affairs, should be active agents in the promulgation of the slander.

RE-ESTABLISHMENT OF THE MARINE HOSPITAL OF NEW ORLEANS.

The greatest danger to New Orleans from small-pox has been the absence of a marine hospital for the cure of infectious and contagious diseases among that class for whose care and treatment the United States government is alone responsible. It is a remarkable fact that, with all the perpetual agitations, with reference to the public health, by the National Board of Health during the past three years, the United States government should be without any hospital for the treatment of seamen suffering with contagious and infectious diseases at the great port of New Orleans.

In the year 1798 a law was enacted by Congress imposing a tax of 20 cents per month on seamen employed on American vessels engaged in the foreign and coasting trades, to be collected by the several collectors of customs; and out of the funds thus created the President of the United States was authorized to provide for the temporary relief and maintenance of sick and disabled seamen in hospitals, or in such other manner as he should direct; provided, however, that the moneys collected in each district should be expended therein.

The same act provides that when there should be a sufficient surplus, after defraying the expenses of temporary relief to seamen, it should be used in erecting marine hospitals.

For nearly forty years after the establishment of marine hospitals the expense attending the maintenance of sick and disabled seamen had to be met out of the funds created by the tax on seamen. The demand for relief far exceeded the resources at command.

Those who engaged in the commerce of the Western rivers were subjected to climatic changes that were very pernicious. The numbers who perished in the long-descending voyages of the flat-bottomed boats, which left the upper waters of the Mississippi and its tributaries in summer and early autumn, to find a market for the fruits of their toil at New Orleans, were very great. Nothing was more common than for two out of the five hands who generally managed these boats to die, and it sometimes happened that the whole crew perished from disease, and that the boat with its cargo was left deserted.

The steamboats ascending the Mississippi and its tributaries brought up every year a great number of deck passengers, chiefly the sons of farmers, returning from that flat-boat voyage, many of whom died on board, while others were left on shore at the river towns, helpless among strangers. The cholera epidemic of 1832 and 1834 added greatly to the catalogue of ills. Moved by a feeling of common humanity for the large class of young men who have surrendered the comforts of home and embarked in the daring, precarious and toilsome interest of commerce, and sensible also of the suffering attendant upon such an improvident life, whole communities, both on the seaboard and in the interior districts, petitioned Congress for additional appropriations and the enactment of laws providing increased facilities for the relief of this unfortunate class Their appeals were heeded by the representatives of the people, and Congress passed an act, which was approved March 3, 1837, authorizing the Secretary of War to appoint a Board of Medical Officers of the Army to select and purchase sites for marine hospitals on the Mississippi and Ohio rivers and Lake Erie.

HOSPITAL AT MacDONOUGH'S, OPPOSITE NEW ORLEANS, (SOLD).

In the year 1837 a site upon which to erect a Marine Hospital for the port of New Orleans was purchased at MacDonough's, on the right bank of the Mississippi River, and opposite New Orleans. The hospital was commenced in 1838 and completed in 1849 at a total expenditure of $122,772 70.

The hospital was first opened for the reception of patients in 1842, and was continued in use until early in June, 1858, when it was abandoned, and the patients were removed to the United States Barracks, below the city of New Orleans, in consequence of an inundation of the Marine Hospital grounds by the overflow of the Mississippi River. Such remnants of the building as remained after the close of the war were sold in 1866 for the sum of $300, but the amount does not appear to have been paid into the treasury.

SECOND HOSPITAL AT NEW ORLEANS, UNFINISHED AND OCCUPIED BY CITY AS AN INSANE ASYLUM.

Five years after the hospital of MacDonough, which had required about twelve years to complete, was first occupied, and while it was in successful operation, a site for a second Marine Hospital for New Orleans was selected in a swamp back of the city, and the erection thereon of an immense cast-iron building was commenced in 1856. Notwithstanding the preparation for a foundation for the building by the driving of piles, the walls for a portion of the structure sank about two feet before completion and had to be reconstructed.

The work on the hospital building was suspended in July, 1860, after more than half a million of dollars had been expended. During the war a large amount of work was done on the building by the Quartermaster Department of the army to fit it for a military hospital, including the erection of a kitchen and the flooring of the entire building. Notwithstanding the inauguration of a system of drainage and the improvement of the grounds, resulting from the filling up with decaying vegetation, during these seventeen years, which had elapsed since the military command of Gen. Butler, the site still remains unhealthy. To complete the building it is estimated that it would require an additional expenditure of $200,000. The building has never been occupied as a Marine Hospital, and is at present used by this city as an Insane Asylum.

This building after extensive advertisement by the United States authorities, was offered for sale at public auction. There was but one bid for the property, and that so far below its real value that the Secretary rejected the bid.

New Orleans, therefore, was during 1880, 1881, 1882 and 1883, without any Marine Hospital, the patients being treated in wards of the Hotel Dieu and Touro Infirmary from which all such infectious and contagious diseases as small-pox are excluded.

From the annual report of the supervising surgeon-general of the Marine Hospital Service of the United States, for the fiscal year 1881, we gather that the receipts from all sources were $386,059 81, and the net expenditures $400,404 46; and during the year 32,613 patients received relief from the service.

Notwithstanding the expenditure of this large sum, the United States has been without any proper hospital for the treatment of small-pox in New Orleans. The seamen afflicted with this horrible disease are allowed to depend upon the provisions of the city of New Orleans and the Board of Health for their isolation.

It was urged that the Representatives of Louisiana in Congress should be instructed by the Governor and General Assembly to endeavor to cause the passage by Congress of the necessary bills and appropriations for the erection of a suitable Marine Hospital at New Orleans, in order that their constituents in Louisiana might be protected from those contagious and infectious diseases, as small-pox and yellow fever which are disseminated to a great extent by the seamen of the United States.

This subject was urged by the President of the Board of Health, upon the representatives of Louisiana in the United States Senate and House of Representatives; and it is

held, that the agitation of this subject, resulted in the passage by Congress of the act approved August 7, 1882, appropriating for the purchase of a site and the erection of a marine hospital at New Orleans, of $100,000.

A site has been selected at New Orleans by Supervising Surgeon General John B. Hamilton, consisting of twenty-two acres of ground and the batture. Plans for the building have been prepared under the direction of Col. John W. Glenn, Supervising Architect, and approved by Supervising Surgeon General Hamilton, of the United States Marine Hospital Service.

We have been informed that the hospital will be completed in 1884.

EFFORTS OF THE LOUISIANA BOARD OF HEALTH TO SECURE THE PASSAGE OF AN ACT OF CONGRESS FOR THE ESTABLISHMENT OF A FLOATING WARD OR HOSPITAL IN THE HARBOR OF NEW ORLEANS.

OFFICE BOARD OF HEALTH, STATE OF LOUISIANA,
NEW ORLEANS, October 12, 1882.

To the Representatives of Louisiana in the United States Senate and House of Representatives:

Gentlemen—I have the honor to place in your hands the enclosed:

1. "An act to authorize the Board of Health of the State of Louisiana to establish quarantine stations at the various approaches to the city of New Orleans," etc

2 "An act to organize, support and maintain a floating ward or hospital in connection with the United States Marine Hospital at this port."

You are earnestly requested by the Board of Health of the State of Louisiana to urge the passage of these acts upon the Congress of the United States at the next session, commencing December 3, 1882.

You are also most respectfully and cordially invited to appoint such time and place in the city of New Orleans as may suit your convenience and pleasure to meet the Board of Health in conference concerning the important measures embraced in the proposed acts.

I have also taken the liberty to enclose a copy of my letter to Hon. R. N. Ogden, Speaker of the House of Representatives, dated May 30, 1882, relative to the subject of quarantine in Louisiana for the exclusion of foreign pestilence from the State and Valley.

With great respect and high esteem I have the honor to remain your obedient servant,

(Signed) JOSEPH JONES, M. D.,
President Board of Health, State of Louisiana.

OFFICE BOARD OF HEALTH, STATE OF LOUISIANA,
NEW ORLEANS, November 23, 1882.

Hon. E John Ellis, New Orleans, La.:

Dear Sir—In accordance with your request I have the honor to enclose the following:

(a). An act to construct, maintain and support a floating ward or hospital connected with the United States Marine Hospital at New Orleans.

(b). Copy of letter of Surgeon General Hamilton, of the United States Marine Hospital Service, relative to said act, marked (a).

(c). An Act to authorize the State of Louisiana to establish quarantine stations, to inspect and disinfect vessels, and to collect an inspection fee.

(d). Opinion of Col. F. C. Zacharie, relative to the quarantine laws of Louisiana.

In presenting the preceding (enclosed) acts, for the action of Congress, the Board of Health of the State of Louisiana desires that you should exercise your discretion as the honorable representative of this State.

With great respect and high esteem, your obedient servant,

[Signed] JOSEPH JONES, M. D.,
President Board of Health, State of Louisiana.

TREASURY DEPARTMENT,
OFFICE SUPERVISING SURGEON-GENERAL, U. S. MARINE HOSPITAL SERVICE,
Washington, November 6, 1882.

Joseph Jones, M. D., President Board of Health, State of Louisiana, corner of Royal and St. Louis streets, New Orleans, La.:

Sir—I have the honor to acknowledge receipt of your letter of the third instant, inclosing for suggestion a draft of a bill to construct and maintain a floating ward or hospital in connection with the Marine Hospital at the port of New Orleans, and return the draft herewith, with certain verbal alterations, some of which, perhaps, are not important, but seem necessary. It seems to me that section two might be shortened without detracting from its stringency, inasmuch as the statutes cover the manner in which public works shall be advertised for, etc. I have therefore stricken out in pencil such sentences as I think could be dispensed with, and made an amendment to section two. In section three I have added "Revenue Marine, and of the Marine Hospital Service," instead of the Marine Hospital Service alone. The other alterations are merely verbal, in the interest of brevity, except section four, which I think should provide for the care of foreign sailors, who are, under the Revised Statutes, admitted to marine hospitals on the application of consuls of the nations to which they respectively belong. Also, the words "Secretary of the Navy," wherever they occur, have been changed to read "Secretary of the Treasury," as this bureau is one of the so-called "independent" bureaus under the direction of the Secretary of the Treasury, which, until the formation of the National Board of Health, was intrusted with the execution of all laws affecting commerce and requiring action by the Federal authorities.

I refrain from making any indorsement of the proposed act, at this time, as it will doubtless, in the course of business, be referred to the Secretary of the Treasury by the committee of the House of Representatives having the matter in charge, and such report as I may have to make upon it will be made at that time. It is proper to say, however, that I have embodied your suggestions as to the construction of a floating ward in the annual report of this service, which will be issued in a few weeks, and will report the same favorably when it is referred as above stated. Very respectfully,

JOHN B. MAMILTON,
Supervising Surgeon General.

AN ACT.

To construct, support and maintain a floating ward or hospital, in connection with the United States Marine Hospital, at the port of New Orleans, in the State of Louisiana, for the purpose of isolating and maintaining sailors, mariners and United States Marine Hospital patients afflicted with contagious or infectious diseases; to provide a steam launch therefore, and to appropriate the sum of thirty thousand dollars for the construction, organization and maintenance of the same, under the direction and control of the United States Marine Hospital Service.

SECTION 1. *Be it enacted by the House of Representatives and the Senate of the United States, in Congress Assembled,* That the sum of thirty thousand dollars be and is hereby appropriated from moneys not otherwise appropriated from the Treasury of the United States for the purpose of constructing and maintaining a floating ward or hospital at the port of New Orleans, Louisiana, in connection with the United States Marine Hospital at that port.

SEC. 2. *Be it enacted, etc.*, That immediately after the passage of this act the Surgeon General of the United States Marine Hospital Service shall cause to be prepared plans, designs and specifications for the building of said floating ward, which shall be submitted to the Secretary of the Treasury for his approval and adoption, and that on the approval and adoption by the Secretary of the Treasury of said plans, designs and specifications, the building shall be constructed under the direction of the Supervising Architect, in accordance with existing law.

SEC. *Be it enacted, etc.*, That on the completion of the same the Secretary of the Treasury shall cause the same to be inspected by an officer of the Revenue Marine and of the United States Marine Hospital Services, who shall report in writing the condition thereof and whether the terms and specifications of the contract have been faithfully complied with, and the Secretary of the Treasury, on a favorable report being made, shall receive the same and turn it over to the United States Marine Hospital Service.

SEC. 4. *Be it enacted, etc.*, That the Surgeon General of the United States Marine Hospital Service shall assume control thereof, and see that the same is properly provided for the reception, treatment and maintenance of all United States Marine Hospital patients and of foreign sailors admitted thereto, suffering from contagious or infectious diseases, and shall cause said patients to be thereto removed, from time to time, and isolated and maintained separate and apart from the other United States Marine Hospital patients and from communication with persons from the shore, save those necessary to the conduct of said floating ward and hospital, and then under such rules and regulations of the United States Marine Hospital Service, or such as may be established by the Surgeon or Surgeons, Physicians or Physician in charge, under the direction of the United States Marine Hospital Service.

SEC. 5. *Be it enacted, etc.*, That the said floating hospital or ward shall be moored in the stream of the Mississippi River, at such point or points as the Board of Health of the State of Louisiana may direct, so as to best avoid the danger of infection or contagion to the shores thereof, and best subserve the proper conduct and administration of said ward.

SEC. 6. *Be it enacted, etc.*, That so much of the balance of the appropriation herein made as may not be used in the building, constructing, furnishing and finishing of the said floating ward shall be devoted to the purchase of a suitable steam launch of such build and design as shall be approved by the United States Marine Hospital Service, to be used in conveying patients and supplies to said floating ward, and in the necessary business thereof, and the remainder of said appropriation, if any there be, shall be applied to the maintenance of said floating ward; and the funds appropriated shall be drawn and expended in the manner now provided by the laws and rules of the United States Marine Hospital Service, and the laws and rules and regulations of the Department of the Treasury of the United States.

HISTORY OF QUARANTINE IN LOUISIANA.

The first great practical and permanent advance in sanitary science by the Representatives of the people of Louisiana in General Assembly convened, was made in March, 1855, when an act was passed "To establish quarantine for the protection of the State."

This valuable act, in its twenty-ninth section, provided not merely for the maintenance of an effective and enlightened system of quarantine, but also established and clothed with ample powers a Board of Health, composed of nine enlightened citizens of the State.

The Legislature of 1877, which superseded the Radical rule, passed four acts of importance, which reorganized and rendered more efficient the Board of Health, provided for the disposition of offal, garbage and night soil and dead animals in the parishes of Jefferson, Orleans and St. Bernard, regulated the cleaning of vaults and privies, and provided for the gauging and inspecting of coal oils and illuminating oils, or fluids derived wholly or in part from coal or petroleum.

By act No. 80, approved April 20, 1877, the registration of births, deaths and marriages in the parish of Orleans was confided to the Board of Health; by act 14, approved March 23, 1877, the present system for the disposal of offal, garbage, night soil and dead animals, at certain designated nuisance wharves or landings, and by suitably constituted boats, was inaugurated. The former act increased the revenues of this Board, and tended to render more accurate the record of the vital statistics of New Orleans, whilst to the latter must be attributed results of the greatest

importance to the sanitary improvement of the city in daily removing and effectually disposing of the refuse and excreta of 230,000 inhabitants by consigning them to the bosom of the great Mississippi.

Without doubt no measure of greater moment to the State of Louisiana and to the Mississippi Valley was discussed and acted on by the General Assembly of 1882 than that which related to the regulation of quarantine charges at the mouth of the Mississippi River.

Great legal difficulties were involved in the question of quarantine charges, and without a fixed and definite revenue the maintenance of an efficient quarantine on this great river for the protection of the State and valley was impossible.

It is, therefore, of importance that a clear statement should be made, for the guidance of future legislatures and boards of health, of the questions involved and the arguments advanced during the discussion of questions relating to the maintenance of quarantine by the State of Louisiana.

THE MAINTENANCE OF QUARANTINE ON THE MISSISSIPPI RIVER AND AT OTHER POINTS ON THE MAIN CHANNELS OF COMMERCE BY THE STATE OF LOUISIANI.

The quarantine act of 1855 appears to have been in operation, without "legal" opposition, until 1874, when Charles Morgan, John H. Clark, C. H. Mallory et als., and Fred. Baker, commenced legal proceedings, to enjoin the Board of Health from collecting the quarantine fees, in accordance with the organic acts of the Legislature of Louisiana, approved March 15, 1855, and March 18, 1858.

The action of the Board of Health, with reference to this matter, is of importance; as to its indecision and failure to uphold the laws of Louisiana, regulating quarantine, unnecessary burdens were imposed upon the tax-payers, and great damage wrought of to the quarantine system instituted by the Legislature of 1855 for the protection of the valley from the importation of foreign pestilence.

At a meeting of the Board of Health, on the twentieth of May, 1874, upon motion of Mr. Burwell, seconded by Mr. Heath, it was "resolved that, with reference to the injunction brought against the board by Charles Morgan, restraining the board from exercising the provisions of the act of quarantine, approved March 15, 1855, and the amendment thereto, *be referred to the President, C. B. White, to take such action, after consultation with the attorney of the board, C. S. Rice, Esq., as he might deem necessary in the premises.*"

It appears that *this injunction was not resisted by the Board of Health, and that,* instead of pressing this important question to a final decision, the Legislature was petitioned for funds to conduct the Mississippi quarantine, and that an appropriation was made in warrants, which yielded in cash $18,000. This same Board of Health had, in 1869, obtained from the Legislature $19,258 85 in cash. How large a sum in warrants, and how many thousands of dollars were saddled upon the taxpayers of Louisiana by these transactions is unknown, in the absence of the books of the Auditor and Treasurer.

The President of the Board of Health, Dr. C. B. White, in the report for the year 1873, states that "the appropriation (by the Legislature) last year was but seven thousand dollars, instead of twelve thousand, as considered necessary by the board, and owing to the pressure of creditors, the warrants were immediately sold, and resulted in an addition to the funds of the board of but thirty-one hundred dollars and eighty-six cents, whilst its indebtedness was over five thousand dollars, thus leaving about two thousand five hundred dollars to be paid out of quarantine receipts of 1873."

"In estimating the revenues of the board, and as partly explanatory of its yearly expenses over receipts, it is to be considered that the receipts at the Mississippi Quarantine Station have decreased from twenty-five thousand in 1869, to eighteen thousand in 1873, although the receipts from the Atchafalaya Station having increased about one thousand dollars per annum, the actual decrease of receipts is about six thousand per annum, as compared with 1866."

It is evident, from the preceding statement, that the warrants issued to the Board of Health by the Legislature were worth less than half their face value.

Dr. C. B. White, in his report of 1874* to Gov. William Pitt Kellogg, thus states the

*The Board of Health, in 1774, was thus constituted: Members—G. W. R. Bayley, Esq., C. E.; Edward Heath, Esq; Thomas J. Woodward, Esq.; William M. Burwell, Esq.; A. W. Smythe, M. D.; S. M. Bemiss, M. D.; F. B. Gaudet, M. D.; James F. Finney, M. D.; C. B. White, M. D., President. Secretary and Treasurer, S. C. Russell, M. D.; Attorney, Charles S. Rice, Esq.; Chemist, S. S. Herrick, M. D.; Clerk, Isaac Stathem; Sanitary Inspector, First District, S. S. Herrick, M. D.; Second District, James F. Newman, M. D.; Third District, Gustavus Devron, M. D.; Fourth District, Joseph Holt, M. D.; Fifth District, Charles H. Young, M. D.; Sixth District. George Kellogg, M. D.; Seventh District, George K. Pratt, M. D.

financial condition of the Board of Health and the effects of the injunction obtained by Morgan and others, restraining the collection of quarantine fees at the Mississippi Quarantine Station.

"The neglect of the General Assembly, at its session of 1874, to provide by appropriation for the usua annual deficiency in the revenues of the board, and the additional pecuniary embarrassment caused by the action of certain ship-owners in enjoining the Board from collecting quarantine dues, threatened the whole quarantine system of the State with immediate dissolution. To bring this important matter promptly and clearly before the only authority competent to remedy this unfortunate and dangerous condition of affairs, a special report was submitted to the Legislature immediately upon its assemblage. Being of permanent interest, it is made a part of the annual report, and now follows:

"The Board of Health respectfully submits a special report.

"This report exhibits the receipts and expenditures of the Board of Health during the year 1874, its liabilities at the present date, the considerable decrease during the present year of the revenue which supports the quarantine system and the Board of Health, and the probable total annihilation of that revenue in the near future." * * *

This report shows that during the year 1874 the total cash received from vessels, via the Mississippi Station, was $19,237 60; and the entire revenue from all quarantine stations, including the sum just mentioned, was $20,438 72.

The account shows that this entire sum was expended, and that the liabilities of the Board of Health of the State of Louisiana, on the twenty-first day of December, 1874, amounted to $10,826 36.

Dr. C. B. White thus enumerates the causes of the large indebtedness of the Board, as shown by the statement of the Secretary:

"The deficient appropriation by the General Assembly at its session of 1873, which left debts of the Board unliquidated amounting to $2500.

"2. The Legislature of the session of 1874 made no appropriation whatever for the relief of the Board, which consequently began the year with the burden of seven thousand dollars of debts.

"3. The receipts of the Mississippi quarantine Station have decreased from twenty-five thousand dollars in 1860 to nineteen thousand dollars in 1874.

"4. The cost of carrying on the operations of the Board is somewhat enhanced by the increased price of supplies in general, while quarantine dues, not being, as formerly, paid in gold or its equivalent, their purchasing power is, to a corresponding extent, diminished.

"5. While the revenues of the Board have thus seriously decreased, its expenses, even with constant efforts at economy, have decidedly increased.

"The General Assembly is respectfully reminded that, previous to the act of March 11, 1870, increasing the powers of the Board, and consequently its duties, this body was in effect merely a Quarantine Board, and its duties and powers as a Board of Health practically nothing.

"Previous to that date there were no meteorological or other observations made, no extended or systematic or continuous recording of the facts of epidemics and epidemic diseases, no laboratory work or expenses, no vaccine furnished to physicians of the city and State, no purchases of scientific instruments or use made of them, no house-to-house inspection with its attendant expenses. Whatever reports were made to the Legislature consisted of a few pages containing some valuable facts, but no way comparable with the accurate, extended and complete reports which are now annually presented, and whose value is distinctly recognized by all experts in sanitary matters throughout the United States.

"As has been stated, the Board of Health began its fiscal year with a debt of seven thousand dollars. To increase its financial difficulties, Charles Morgan and other steamship proprietors procured, in the United States Court, an injunction forbidding the Board to collect quarantine dues from vessels belonging to the before-mentioned persons. The diminution of the revenues of the Board from this cause, during the year just closed, amounts to the sum of twenty-six hundred dollars.

"In April, upon the recommendation of this Board, Dr. Alfred W. Perry was appointed quarantine physician at the Mississippi Station. * *

Dr. Perry made a contract with the Board to accept salary at the rate of thirty-five hundred dollars per annum, instead of five thousand dollars, and to furnish an assistant at five hundred dollars per annum, instead of two thousand, as salaries are allowed by law. In addition to these reductions, he brought down the pay-roll of the station, by the discharge of employes, not required by the necessities of the station, and by reducing its supplies used, so that the expenses of the Mississippi Station were reduced from about twelve hundred to seven hundred and thirty dollars per month; and at the date of his arrival had laid before the Board a proposition, whilst increasing the salary of the assistant physician, to bring the total expenses of the station to six hundred and ninety dollars per month, being at the rate of, say, eight thousand five hundred dollars per annum, instead of fourteen thousand six hundred dollars, as under his predecessor.

"Much to the regret of the Board of Health, on the fourteenth of October, Dr. Perry was superseded by Dr. Howe, who held the position about five weeks, during which period all attempts at economy were disdained, and the expenses brought up to the former rate of about fifteen thousand dollars per annum.

"At the request of the Board of Health, made in consequence of this official extravagance, and also because of disobedience to positive instructions of the Board, directing disinfection of vessels from infected ports, Dr. Howe, on November twentieth, was superseded by Dr. Julius Clark. By Dr. Clark the plans of the Board for the economical management of the Mississippi Quarantine Station are cordially and completely carried out, the rate of expenditure at the present time being somewhat less than under the administration of Dr. Perry.

"It is evident therefore that the receipts of the Board have therefore been so managed that, had the action of the courts not deprived it of a portion of its usual revenue, they would have very nearly provided for its expenses. The indebtedness of the Board, December 31, 1873, seven thousand dollars, and its loss of revenue by injunctions, two thousand six hundred dollars, approximate closely to the ten thousand dollars indebtedness of the Board, December 31, 1874. This debit will require an appropriation by the General Assembly equivalent to ten thousand dollars in cash.

"As was suggested in the opening sentence of the report, it is almost certain that all revenues of the Board of Health will be taken away very early in the year. If the mainteinance of quarantine and the continued existence of the Board of Health be esteemed desirable by the Legislature, action to that end is necessary. The amount of appropriation necessary for the support of quarantine and the Board of Health during 1875 is twenty-six thousand dollars. The small amouut of three hundred dollars for nails and paints is necessary to prevent the rapid and serious deterioration of the quarantine buildings. The work and repairs could be done by the employes of the Station."—*Annual Report of the Board of Health, to the General Assembly of Louisiana*, 1874, *Session at New Orleans; printed at the Republican office, 95 Camp street, pp*, 9–17.

It will be observed from the foregoing statement of Dr. C. B White, President of the Board of Health, that a complete and unconditional surrender of the questions at issue which related to the maintenance of the quarantine system of Louisiana by the organic acts of the Legislatures of 1855 and 1858 was made by the Board of Health.

The President held that it was "*almost certain that all revenues of the Board will be taken away very early in the year ;*" therefore, instead of defending the quarantine laws and exhausting all legal measures to settle this important question, the injunction against the Board of Health was allowed to remain in the lower court, in which it originated, and the responsibility of maintaining the Board of Health and quarantine was referred to legislative action, and ten thousand dollars solicited to pay the indebtedness of the Board, and twenty-six thousand dollars asked for the support of quarantine and the Board of Health during 1875.

This appeal was not without its effect, and Dr. C. B. White, in his annual report for 1875, informs "His Excellency, William P. Kellogg, Governor of the State of Louisiana," that the appropriation made by the General Assembly, session of 1875, for the maintenance of health and quarantine, together with the receipts from the Mississippi Quarantine Station, have greatly relieved the financial embarrassment of the Board of Health, and but for circumstances beyond its control the relief would have been complete, and the Board at the close of the year been entirely out of debt."

From the report of the Treasurer, S. C. Russell, M. D., we gather that the Legislature appropriated $24,000 to the Board of Health, as per act No. 17, of 1875. Eighteen thousand dollars of this appropriation, together with $13,735 50 were received from fees on vessels at the Mississippi Quarantine Station during the year 1875. The total receipts of the year 1875 were $33,180 02; this entire amount was expended, and still the liabilities of the Board, on the thirty-first of December, 1875, were $4530 50.*

Dr. Felix B. Gaudet was elected President of the Board of Health in 1876, and no report was issued for this year.

After the overthrow of the Packard government, the reorganization of the Board of Health was effected under act eighty of the Legislature, on the first of May, 1877.

Dr. Samuel Choppin, in his report to His Excellency, Francis T. Nicholls, forthe year 1877, thus alludes to the questions at issue with reference to the resistance to the collection of quarantine fees by certain ship agents and owners:

I take occasion here to point out the necessity for legislative action in some important particulars, for the benefit of our quarantine system. The successful resistance of a number of ship owners to quarantine exactions has seriously diminished the resources of the board, and it is likely to produce still greater damage in the future, unless the basis of charges be modified so as to obviate the constitutional provision forbidding State authorities to levy taxes on tonnage. It is suggested that the fees should be graduated according to work performed; that is to say, proportioned to number of the vessel's company, when visited and inspected by the quarantine physician; and besides a charge for disinfection, when found necessary, which might be graduated upon the same basis.

"While it is desirable to reduce these charges, the board are restricted, in the present terms of the law, from curtailing one principal item of expense; that is, the salaries of the resident physician and his assistant at the Mississippi Quarantine Station. The salaries of these two officers are fixed by law, and amount to $7000, while there is no doubt that the board might, if empowered to make the selection, obtain equally good service, and save from $2000 to $3000 annually in salaries. Another reason for leaving this appointment to the board is, that they are held responsible to the public for the proper administration of quarantine; and, indeed, the principle insisted on is recognized with the other stations, in giving the board full control over the choice and compensation of officers,

"The Board of Health earnestly urge upon the Legislature the importance of memorializing Congress upon the absolute necessity of passing a law authorizing the State to levy tax for quarantine purposes upon all shipping as a matter of self-protection.

"In this connection, I desire to call attention to the necessity of a legislative appropriation for repairs of buildings and construction of fences at the Mississippi Quarantine, and for the erection of suitable buildings at the Rigolets and Atchafalaya, where none now exist. By courtesy of the military authorities, the quarantine physician and his assistant at the Rigolets have been accommodated for several years with quarters at Fort Pike, but aside from the impropriety of thus being dependent on solicited hospitality, it is found that the fort is not the proper place for the quarantine station, which should be near the railroad bridge over the Rigolets, and within plain view of the mouth of West Pearl River. At the Mississippi Station the need of repairs is urgent, to save the buildings from ruin. The estimated cost of repairs and fences for this station is $10,000; for the Rigolets, $2500, and for the Atchafalaya $2500 "—Annual Report of the Board of Health of the State of Louisiana to the General Assembly for the year 1877 (Session of 879(, pp. 15–17.

In his report of 1879, Dr. Choppin again urged upon the General Assembly the necessity of legislating on the subject of quarantine. Thus he says:

"It is necessary to adopt some other basis than tonnage for forming a scale of quarantine fees. The revenues from the Rigolets and Atchafalaya stations are utterly insignificant, owing to the refusal of the owners and masters of vessels to pay any fees, unless they actually have sickness on board. In this course they are sustained by decisions of the Federal courts, and we have no remedy, without modification of the law. I would suggest that the number of people carried by a vessel be made the basis of a scale of fees. Then there would be no tax on tonnage, but an inspection fee granted according to the works actually performed."—*Annual Report of the Board of Health of the State of Louisiana to the General Assembly for the year* 1879 (*Session* 1880), *pp.* 25–36.

*Of the total amount, $33,180 02, expended by the Board of Health during the year 1875, the following sums were paid for printing and stationery: Paid John W. Madden for printing annual report of 1872, $900; lithographing 2000 charts for annual report of 1872, $500; paid for printing and stationery, etc., in full, for the year 1873, $760 30; paid for printing 1000 copies of annual report of 1873, $900; lithographing 2000 charts for annual report of 1873, $500; lithographing 2000 charts for annual report of 1874, $750; printing, stationery, etc., for the years 1874 and 1875 in full, $1522 30; total, $5632 90.

From the preceding statements by the late Dr. Choppin, it is evident that, during the years 1877, 1878, 1879, to April, 1880, the Board of Health received no specific legislation on the subject of quarantine, and took no steps to raise the injunction obtained, in 1874, by Morgan and others, or to probe the difficulty to the bottom, by conducting the case to the Supreme Court of the United States.

In accordance with the provisions of the Constitution of 1879, the Board of Health was reorganized in April, 1880, after the adjournment of the General Assembly of 1879–1880; and it was impossible to obtain any modification of the existing quarantine law previous to the meeting of the Legislature in May, 1882.

The President, however, brought the subject at issue before the Board of Health, and urged immediate and persistent prosecution of the cases up to the Supreme Court of the United States. A correspondence was conducted by the President with the Chief Executive and quarantine and health authorities of the individual States, in order to obtain all possible information as to the nature and mode of execution of the quarantine laws in the Atlantic and Gulf and Pacific ports of the United States.

The first occasion which offered, for the invocation of legislative action, namely, the Extra Session of 1881, was embraced, and His Excellency, Governor S. D. McEnery, was respectfully urged to bring the subject before the General Assembly; it was, however, wisely decided by the Chief Executive of Louisiana, that the question of quarantine demanded for its consideration and discussion the necessary time and opportunity afforded by the regular sessions prescribed by the Constitution.

The following extracts from the official records of the Board of Health will place in a clear light the efforts which were made by the President to sustain the quarantine laws of Louisiana, and to secure the important and essential support of his Excellency, Governor S. D. McEnery, and of the General Assembly of the State.

To accomplish the most important result, namely, the proper framing of such an act as would remove objectionable expressions and at the same time increase the force and render more effective the quarantine laws of Louisiana, the necessity of employing able legal counsel was urged, and sustained by the Board of Health, as will be shown by the following correspondence:

RESISTANCE OF THE MARITIME ASSOCIATION OF NEW ORLEANS TO THE QUARANTINE LAWS OF THE STATE OF LOUISIANA.

LETTER OF THE PRESIDENT OF THE BOARD OF HEALTH TO HIS EXCELLENCY, S. D McENERY, GOVERNOR OF THE STATE OF LOUISIANA, RELATIVE TO THE NECESSITY OF LEGISLATIVE ACTION.

NEW ORLEANS, December 8, 1883.

Dr. Joseph Jones, President of the Board of Health of this port:

Dear Sir—Herewith we respectfully call your attention to a copy of a communication hereto annexed, and which was submitted to the New Orleans Maritime Association at their meeting last evening and approved, with instructions to us to carry out the suggestions made therein. We deem it proper to first address you on the subject, explaining that the Maritime Association does not wish to interfere in the least with the quarantine officers or their rights or duties, but they do desire that the expenses of examining and passing healthy vessels on their arrival at Quarantine Station shall be paid by the State, where it legally belongs, as customary in other United States ports, and not to be a tax upon vessels and their owners, as imposed upon them in this port. We further add, that we are informed by good authority that for several years past vessels of a certain line coming to this port have not, and still up to this day do not, pay the fees for examining such vessels arriving between sunrise and sunset, as charged for and collected on vessels consigned to us.

We, therefore, respectfully ask that you will cause all such unjust collections to cease, and grant to such vessels the same rights and privileges as now enjoyed by the vessels referred to by the preferred party.

Awaiting your reply, we remain yours respectfully,

COMMITTEE ON ABUSES.
Per Robert Oerlein, Chairman.

Robert Oerlein, Esq., Chairman Committee on Abuses, New Orleans Maritime Association:

Sir—At the present time, and for many years past, the State quarantine officers have been collecting fees from all vessels consigned to us, regardless of condition or port from which they sailed. We believe this illegal and an injury to our port, and ask you to investigate this matter.

We suggest that if the Governor, being informed of this fact, declines to ascertain the legality of such onerous fees, and order such collections to cease, that you proceed to take steps to obtain an injunction against collections that are unconstitutional.

New Orleans, November 24, 1881.

NORTON & BELL, Ship Agents.
A. K. MILLER & CO., Ship and Steamship Agents.
HALL & VAUGHN, Ship and Steamship Agents.
FORSTALL, ROSS & CLAYTON, Ship and Steamship Agents.
JOS. F. LOVELL & CO., Ship Agents.
SILAS WEEKS & CO., Ship and Steamship Agents.

NEW ORLEANS, December 19, 1881.

His Excellency, Governor S. D. McEnery, Governor of the State of Louisiana:

Dear Sir—I have the honor to submit to your Excellency the enclosed communication from the New Orleans Maritime Association of December 18, signed by Robert Oerlein, Esq., Norton & Bell, A. K. Miller & Co., Hall & Vaughn, Forstall, Ross & Clayton, Jos. F. Lovell & Co., and Silas Weeks & Co., ship agents.

It will be seen that the gentlemen composing the New Orleans Maritime Association have determined to resist the laws of Louisiana regulating the entire subject of quarantine.

The law now in force, and upon which the Board of Health has acted since its organization, is as follows: "An act supplementary to an act entitled an act relative to quarantine," approved March 15, 1855.

SEC. 2. *Be it further enacted, etc.*, That the Resident Physician at the Quarantine Station on the Mississippi River shall receive a salary of $5000 per annum, and shall be appointed by the Governor of the State, with the consent of the Senate, and shall be removable at the will of the Governor. It shall be the duty of the Resident Physician or his assistant to visit and inspect every vessel entering the port of New Orleans through the Mississippi River. Vessels free from disease and not in a foul condition, and not from an infected district, which shall be decided upon by the Resident Physician, shall be furnished with a certificate of health, and allowed to proceed to the city. The Resident Physician shall require for every certificate thus furnished the following fees:

Every sailing vessel of 1000 tons and over shall pay $30; every ship of 1000 tons or less shall pay $20; every bark shall pay $15; every brig shall pay $10; every schooner shall pay $7 50; every steamboat (towboats excepted) shall pay $5; every steamship from Florida, Alabama, Mississippi or Texas shall pay $10; every steamship from other ports shall pay $20. The Resident Physician shall return to the Secretary of the Board of Health a weekly list of all vessels inspected by him, as well as all fees collected by him, which shall form a fund for the support of quarantine.

WM. W. PUGH,
Speaker of the House of Representatives.
C. H. MOULTON,
Lieutenant Governor and President of the Senate.
ROBT. C. WICKLIFFE,
Governor of the State of Louisiana.

A true copy:
ANDREW S. HERRON, Secretary of State.

It will be seen that the gentlemen composing the New Orleans Maritime Association pronounce the laws of the State of Louisiana unjust, and demand that the collection of the fees at the Mississippi Quarantine Station shall cease.

The statement with reference to certain lines of vessels, or vessels of a certain line, refers to certain suits against former Boards of Health. Thus, the following cases were entered in the United States Circuit Court in New Orleans:

Charles Morgan vs. Board of Health, No. 7236, in 1874.
John H. Clark et als. vs. Board of Health, No. 7241, in 1874.
C. H. Mallory & Co. et als. vs. Board of Health, No. 7268, September 11, 1874.
Fred. Baker vs. Board of Health, No. 7267, September 11, 1874.

In these cases judgment was rendered *pro confesso*, no defense having been set up by the Board.

At the present moment the former steamship line of Charles Morgan, now represented by Charles A. Whitney & Co., hold an injunction against the Board of Health, but, nevertheless, during my term of office, it has paid a considerable amount toward the support of quarantine.

In view of the preceding facts, I would respectfully submit the following:

1. The commercial prosperity of New Orleans, and of the entire Mississippi Valley, demands that an efficient quarantine should at all times, and all seasons of the year, be maintained at the mouth of the Mississippi River.

2. The protection of New Orleans, the State of Louisiana and the entire Mississippi Valley from the introduction of foreign pestilence, as Asiatic cholera, Oriental plague, ship or typhus fever, small-pox, leprosy and yellow fever, depend absolutely upon the maintenance of a rigid quarantine at the mouth of the Mississippi River.

3. If the quarantine of the Mississippi be allowed to fail, either by a combined effort of the merchants, shipmasters and enemies of quarantine and the health and prosperity of the State, the port of New Orleans will be hermetically sealed during six months of the year.

4. New Orleans is becoming a great railroad centre, and the vast interests of the great States concentrating here demand a rigid and thorough system of quarantine.

The President was authorized to employ the services of Col. Frank Zacharie as his special counsel, and at the earliest practical moment all laws and acts relating to quarantine in this and other States were placed in his hands, and in due time the form of a bill to be presented to the General Assembly, together with his legal opinion, were perfected and laid before the Board.

The form of the bill: "To fix and regulate quarantine charges at the Mississippi River Station; to establish a lien and privilege on vessels inspected in favor of the Board of Health for the same, and to provide for their enforcement and collection by provisional seizure, was adopted by a unanimous vote of the Board of Health, and the President was authorized to present the said bill to the General Assembly for adoption.

The President of the Board of Health visited Baton Rouge in person on the tenth of May, 1882, two days after the organization of the General Assembly, and delivered the bill relating to quarantine charges at the Mississippi River, to His Excellency Governor S. D. McEnery, to Hon. George L. Walton, President pro tem. of the Senate, and to Hon. Robert N. Ogden, Speaker of the House.

The bill was accompanied by the letter which was published in the Official Journal of the House of Representatives:

OFFICE BOARD OF HEALTH, STATE OF LOUISIANA,
New Orleans, May 8, 1882.

Hon. Robert N. Ogden, Speaker House of Representatives, State of Louisiana, Baton Rouge:

Dear Sir—The attention of the Honorable Speaker of the House of Representatives is respectfully directed to the enclosed bill, entitled "An act to fix and regulate quarantine charges at the Mississippi River Station; to establish a lien and privilege on vessels inspected in favor of the Board of Health for the same, and to provide for the enforcement and collection by provisional seizure."

The necessity for prompt and decided action on the part of the General Assembly for the regulation of the quarantine fees for the protection of the State and Mississippi Valley from the importation of foreign pestilence has been fully demonstrated in the annual report of the Board of Health (pp. 103-109).

The bill now submitted has received the unanimous approval of the Board of Health.

The commercial prosperity of New Orleans and of the entire Mississippi Valley demands that an efficient quarantine should at all times, and at all seasons of the year, be maintained at the mouth of the Mississippi River. The protection of New Orleans, the State of Louisiana, and the entire Mississippi Valley from the introduction of foreign pestilence depends absolutely on the maintenance of a rigid quarantine at the mouth of the Mississippi River.

If the quarantine of the Mississippi be allowed to fail by the combined efforts of the merchants, ship-masters and enemies of quarantine, the port of New Orleans will be hermetically sealed during six months of the year.

New Orleans is fast becoming a great railroad centre, and all the vast interests of the great States concentrating here demand a rigid and thorough system of quarantine.

Former Legislatures, by their organic acts, have based the support and maintenance of the various quarantine stations of the State absolutely and wholly upon the fees derived from vessels entering the waters of Louisiana.

Two items alone, the salaries of the quarantine physician and his assistant, amount annually to the large sum of $7000. Add to this the pay of the necessary boatmen, watchman and hospital stewards, nurses, etc., necessary to the proper care of the buildings and sick, and the necessary fumigation, ten men at $50 per month, equal to $500 per month, or $6000 per year; annual repairs and supplies for sick, ship chandlers' supplies, disinfectants, ets., at $10,000, and we have a total of about $23,000, actually required to maintain the Mississippi Quarantine Station alone.

The actual receipts from the fees collected at the Mississippi Quarantine Station during 1880, were $21,872. This sum was inadequate to the support of the quarantine establishments of Louisiana. In 1881, the receipts amounted to only $18,052, whilst the repairs alone upon the Mississippi Station reached $6000, and no provision has been made by the Legislature to meet the necessary expenditures of the Board of Health, for the maintenance of an effective quarantine.

The exports of 1880 reached $102,528,376, and the imports $11,809,977; total exports and imports for the year 1880, $14,338,353.

The total amount collected during 1880 from this vast sum for the protection of the commerce and health of New Orleans and the Mississippi Valley was $21,872, and in 1881 the amount was only $18,052, and owing to the gambling operations in cotton and the failure of the grain crop, the quarantine fees of 1882 will fall short of those of 1881.

The preceding facts relate solely to the mercantile and money value of the question. During the years 1853, 1854 and 1855, New Orleans lost 12,780 of her citizens by yellow fever, an imported pestilence, and in 1878 she lost 4056 souls and about $15,000,000 by the same scourge.

The State of Louisiana has a right to demand that commerce, which benefits the entire valley, and derives its richest rewards from the cotton, sugar and grain of these great Southern and Western States, should pay a sufficient amount for such a system of inspection and disinfection and quarantine as will prevent the introduction of foreign pestilence.

It is but just that the immigrants from foreign countries should be taxed a sufficient sum for their proper protection from disease and their proper treatment when sick within the limits of the State.

During the past forty-five years Louisiana has cared for and treated in the Charity Hospital a grand total of 340,411 sick.

Of this vast number foreign countries furnished 260,128 and the various States of the Union, 80,289.

Of this vast multitude, equaling more than one-third of the present population of the State, Louisiana furnished only 17,013.

The Board of Health of the State of Louisiana relies with confidence upon the wisdom and justice of the General Assembly for the enactment of such laws as will effectually maintain the health of the Mississippi Valley by the efficient support of the quarantine establishments.

I have the honor to remain, with great respect, your obedient servant,

JOSEPH JONES, M. D.,
President Board of Health, State of Louisiana.

In order to expose and defeat the efforts to overthrow the quarantine system of Louisiana, by the owners and agents of steamships and other vessels, and certain parties employed in undermining, misrepresenting and defaming the legal and constitutional labors of the Board of Health of the State of Louisiana, the President addressed the following communication to His Excellency S. D. McEnery, and to Hon George L. Walton, President pro tem. of the Senate, Hon. Robt. N. Ogden, Speaker of the House.*

THE RELATIONS OF THE QUARANTINE ESTABLISHED BY THE STATE OF LOUISIANA IN 1855 TO PURLIC HEALTH AND COMMERCE.

OFFICE BOARD OF HEALTH, STATE OF LOUISIANA,
New Orleans, May 30, 1882.

Hon. R. N. Ogden, Speaker House of Representatives, Baton Rouge, La.:

Dear Sir—The Official Journal of the House of Representatives of the State of Louisiana (twelfth day's proceedings, published in the daily Capitolian-Advocate of May 24, 1882, contains a memorial from certain owners and agents of steamships and other vessels,† certain statements of which demand critical examination.

The memorialists affirm that the bill introduced into the House of Representatives of Louisiana by the honorable chairman of the Committee on Health and Quarantine, entitled "An act to fix and regulate quarantine charges at the Mississippi River Station, etc., plainly and palpably violates at least two provisions of the United States Constitution, and in its tendency to prejudice our growing commerce, is materially subversive of the best interests of Louisiana."

It has been shown in the annual report of the Board of Health of the State of Louisiana for 1881 (Introduction, p. 8), and also by the learned counsel of the board in a legal opinion now in the hands of the honorable Committee on Health and Quarantine, that the quarantine laws of Louisiana are not in conflict with the Constitution of the United States, and that they form part of that immense mass of legislation which embraces everything in the territory of Louisiana not surrendered to the General Government. It has been shown that inspection laws, quarantine laws, health laws of every description as well as laws for regulating the internal commerce of a State, and those which respect turnpike roads, ferries, are regulations of police rather than of commerce in the constitutional understanding of that term.

This feature of the proposed act to fix and regulate fees at the Mississippi Quarantine Station having been referred to the Judiciary Committee of this honorable body, will not be further discussed; but we will confine our attention chiefly to the assertion made by certain owners and agents of steamships in New Orleans, that this bill tends to prejudice our growing commerce, and is materially subversive of the best interests of Louisiana, and imposes heavy additional charges against an interest already heavily burdened.

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* This protest was signed by the following ship and steamship agents in New Orleans: R. B. Post & Son, Agents Tampa Steamship Company; Charles A. Whitney & Co., Morgan's Louisiana and Texas Railroad and Steamship Company; Forstall, Ross and Clayton, Agents French Canadian Line of Steamships; Silas Weeks, Ship and Steamship Agents; A. K. Miller & Co., Ship Agents; Edw. A. Yorke, p. p. Richard H. Crawford, Agents New York, Havana and Mexican Steamship Line; Alfred Moulton & Co., Cromwell Steamship Line; Norton & Bell, Ship and Steamship Agents; L. LaCombe & Co., Ship and Steamship Agents; Lucas E. Moore & Co., Agents Harrison's Line; T. & G. Forwood, agents W. L. and P. Steamship Line; Ed, F. Stockmeyer & Co., Agents North German Lloyd; Shultz & Co., Ship Agents; A. B. French & Co., Steamship Agents; Louis Ranger & Co., Agents Steamship Line; S. A. Cosulich, Ship Agent; Jos. T. Lovell & Co., Ship and Steamship Agents; Joseph Kelly, Ship Broker; S. Oteri; Macheca Bros., Managers N. O. and B. R. M. Steamship Line; Hall & Vaughan, Steamship and Ship Agents.

† This communicgtion was referred to the Committees on Health and Quarantine in the House and Senate and was not read, and did not appear upon the official journal of the General Assembly. Notwithstanding that the memorial of the ship agents and maritime men of New Orleans, attacking the quarantine system of Louisiana, together with the protests against the substitutes for the quarantine bill, by various members of the General Assembly, were read and published in full in the official journal of the House of Representatives.

In this emergency, service of no ordinary value was rendered by the Daily New Orleans Picayune in the prompt publication of the exposition of the relations of quarantine to commerce, and the distribution of the views held by the Board of Health as to its official duties and powers on this important subject, to every member of the Senate and House of Representatives.

It has been well said that no city in the world occupies a more important commercial position than New Orleans. Situated on the most important point on the Mississippi between the shores of the Gulf of Mexico and the borders of the great lakes, New Orleans holds communication with all the great ports of Europe and America, and furnishes them with the vast supplies drawn from the great valley, bounded by the Alleghanies and the Rocky Mountains, comprising an area of 2,455,000 square miles, extending through thirty degrees of longitude and twenty-three of latitude.

No city in the world has suffered more obloquy than New Orleans in relation to health, and more especially in regard to its epidemics of yellow fever; and however devoid of sanitary laws and hygienic regulations, and however filthy and neglected the towns and cities situated within the Valley of the Mississippi and its tributaries have been in times past, they have ever sought to lay their own devastating epidemics at the door of this great commercial centre.

The rapidly advancing millions of the great valley look with increasing interest upon the sanitary condition and quarantine laws and regulations of New Orleans.

It will not be beyond the bounds of truth to affirm that, but for yellow fever, New Orleans, even at this day, after the ravages of civil war, and the ruthless plundering of her hostile rulers, would have exceeded every other city of America in the magnitude of her imports and her exports.

5. The former Lesislatures, by their organic acts, have based the support and maintenance of the various quarantine stations of the State absolutely and wholly upon the fees derived from vessels entering the waters of Louisiana. Two items alone, namely, the salaries of the quarantine physician and his assistant, amount annually to the large sum of $7000. Add to this the pay of the necessary boatmen, watchmen and hospital stewards, nurses, etc. necessary to the proper care of the buildings and sick, and the necessary fumigation, ten men at $50 per month, equal to $500 per month, or $6000; annual repairs and supplies for sick, ship-chandlers' supplies, disinfectants, etc. $10,000; and we have a total of about $23,000 actually required to maintain the Mississippi Quarantine Station alone.

The actual receipts from the fees collected at the Mississippi Quarantine Station have been during the past year (1880) $21,872. This sum has been inadequate to the support of the quarantine establishments of Louisiana; and for the repairs of 1881, amounting to $6000, for the Mississippi Quarantine Station, no adequate provision has been made by the Legislature.

The exports of 1880 reached $102,528,376, and the imports $11,809,977; total exports and imports, $114,338,353.

The total amount collected from this vast sum for the protection of the commerce and health of New Orleans and the Mississippi Valley was $21,872.

It is not true that the quarantine charges and expenses are higher in New Orleans than any other port in the United States.

The preceding facts relate solely to the mercantile and money view of the question. But when we remember that during three years—1853, 1854 and 1855—New Orleans lost 12,780 of her citizens by yellow fever, an imported pestilence, and that only four years ago she lost 4056 souls, and about $15 000,000 by this same scourge, the action of the Maritime Association with their aids and abettors, in their attempt to destroy the quarantine system of Louisiana, is seen in its true light.

But arguments and explanations avail nothing with men who are willing to resist the laws, and thereby avoid the payment of the just quarantine dues established by the General Assembly of Louisiana, and who are willing to break down every barrier against the importation of foreign pestilence and to utterly destroy at once the health and commercial prosperity of the State, in an effort to avoid the payment of a few dollars.

The State of Louisiana has a right to demand that commerce, which benefits the entire Valley and derives its richest reward from the cotton and grain of these great Southern and Western States, should pay a sufficient amount for such a system of inspection and disinfection and quarantine as will prevent the introduction of foreign pestilence.

It is but just that the immigrants from foreign countries should be taxed a sufficient sum for their proper protection from disease and their proper treatment when sick, within the limits of the State.

During the past forty-five years Louisiana has cared for and healed in the Charity Hospital a grand total of 340,411 sick. Of this vast number foreign countries furnished 260,120, and the various States of the Union 80,280. Of this vast multitude, exceeding by more than one-half the present population of this city, Louisiana furnished only 17,913. The State, in addition to 260,220 foreigners, has cared for 53,570 sick and destitute poor within the walls of her charitable institutions, the vast proportion of which came from such States as Alabama, Kentucky, Iowa, Ohio, Pennsylvania, New York, North Carolina, Virginia, Mississippi, Tennessee, Missouri; 41,611 natives of New York and 7462 natives of Pennsylvania have been treated within the Charity Hospital.

In conclusion, I would most respectfully suggest that, if it should be deemed necessary to prolong the extra session of the Legislature, that your Excellency should embrace in the call the important subject of the quarantine.

The question will be solved by the united wisdom of the Chief Executive and General Assembly, and I feel assured that it will be possible to devise means by which the quarantine laws may be either promptly vindicated or so modified as to render their induction and invasion upon any technical terms utterly impossible.

With great respect and high esteem, I have the honor to remain your obedient servant.

JOSEPH JONES M. D., President Board of Health, State of Louisiana.

OFFICE BOARD OF HEALTH, STATE HOUSE, STATE OF LOUISIANA,
NEW ORLEANS, December 12, 1881.

Robert Oerlein, Esq.:

Sir—In reply to your communication of the eighth instant, inclosing a resolution by the New Orleans Maritime Association, signed by Norton & Bell, A. K. Miller & Co., Hall & Vaughn, Forstall, Ross & Clayton, Jos. F. Lovell & Co., Silas Weeks & Co., I have the honor to refer you to the enclosed organic act of the Legislature of Louisiana.

Respectfully yours, JOSEPH JONES M. D., President Board of Health.

The vast burden which has been imposed upon the State of Louisiana, and more especially upon the medical profession of New Orleans, in virtue of the position of this State at the mouths of the Mississippi

River, and in virtue of the vast number of foreign emigrants passing through the gateway of the Mississippi Valley, is clearly shown by the statistics recorded in the tables, marked A and B.—Annual Report, 1881.

The table marked B exhibits the foreign countries and States of the American Union from which the patients annually admitted into the Charity Hospital of New Orleans have come, and the number from each, during a period of forty-five years—1830-1880—and in addition to the facts stated in the preceding letter to his Excellency, S. D. McEnery, it should be noted that England contributed 15,907, France 19,788, Germany 45,435, Prussia 6880, Scotland 5438, Spain 3777, Sweden 2350, Switzerland 4649, Canada 2693 and Ireland 137,669 patients to the Charity Hospital. Total from these countries, 252,645.

Ireland alone has furnished eight times more patients to the Charity Hospital than Louisiana.

If the annual cost of maintaining the Charity Hospital is placed at $100,000, then the total amount expended by the State of Louisiana in caring for, treating the sick and burying the dead of this grand total of 340,411 human beings from all countries and from all States was $4,500.000 (four millions five hundred thousand dollars). Of this amount the natives of Louisiana received about one-twentieth, or about $250,000, whilst the natives of foreign countries and of the surrounding States composing this American Union received $3,225,000.

At the same time the sole revenue which the State of Louisiana derives from foreign countries and the various States of the Union for the prevention of the introduction of foreign pestilence and the relief of the sick at the various quarantine stations, and for the protection of the commerce of the Mississippi River, is derived from the inspection fees originally levied in 1855 and 1858 by the General Assembly of the State of Louisiana for the support of quarantine.

In view of the preceding facts, illustrating at once the vast mass of human sickness and suffering which has been relieved by the State of Louisiana, so ably represented by her self-sacrificing and learned physicians, it is surely remarkable that the surrounding States should strive incessantly to injure the fair name of Louisiana, and more especially of the members of the medical profession, by reiterating the slander that the existence of pestilence in New Orleans has been repeatedly concealed for the purpose of promoting the needs of commerce; and it is still more astounding that men claiming to represent Louisiana should be active in the propagation of this slander.

Upon consultation with His Excellency, Governor Samuel D. McEnery, and with Col. I. N. Marks, the former Chairman of the Finance Committee, and Hon. Edward Booth, Chairman of the Finance Committee, and other members of the Board of Health, the suggestion of the President that able counsel should be employed for the thorough investigation of all points at issue with reference to the execution of the quarantine laws of Louisiana was fully indorsed.

The appointment, as additional counsel, of Col. Frank Zacharie, received the cordial approval of His Excellency, the Governor.

OFFICE BOARD OF HEALTH, STATE OF LOUISIANA,
NEW ORLEANS, December 20, 1881.

Col. Frank Zacharie, No. 24 Exchange Place:

Dear Sir—Enclosed please find the following documents:

1. Letter of President to His Excellency, Governor S. D. McEnery, of date December 19, 1881. Said letter relates to the subject of the resistance of quarantine fees by the New Orleans Maritime Association.
2. Communication from New Orleans Maritime Association to President of Board of Health.
3. Data furnished by S. S Herrick, Secretary of the Board of Health, relating to the state of the suits urged by Morgan and others against former Boards of Health.
4. Letter of the President of the Board of Health to Col. I. N. Marks.
5. Letter of President to Robert Oerlein, Esq.

Judge Kennedy will, without doubt, be able to furnish additional information.

It is desired that you should make a thorough investigation of this entire subject. It will be necessary to examine the court records, and to obtain accurate information at the outstep. Mr. F. A. Woolfley, Clerk of the United States Circuit Court, might give material aid.

No more important question can be considered than that of the powers of the Legislature to regulate efficiently her quarantine affairs.

Please suggest such course as you may think will best protect the interests of the State, and best cover all the points at issue.

Action should be prompt and efficient. I have directed Dr. S. S. Herrick, Secretary and Treasurer of the Board of Health, and Mr. L. O'Donnell, Attorney of the Board, to render all possible assistance.

The question of the liability of Chas. A. Whitney & Co. and of Alfred Moulton, for past quarantine fees, should be thoroughly investigated, as well as the ability of the Board to remove their former injunctions.

Respectfully, your obedient servant,
JOSEPH JONES, M. D.,
President Board of Health, State of Louisiana.

OFFICE BOARD OF HEALTH, STATE OF LOUISIANA,
NEW ORLEANS, December 17, 1881.

Dr. Joseph Jones, President Board of Health:

Sir—In reply to your request concerning the injunction suits against the Board brought by certain shipping men some years since, I would offer the accompanying copies from the minutes.

I learn from C. S. Rice, Esq., former Attorney of the Board, that the following cases were entered in the United States Circuit Court in this city:

Charles Morgan vs. Board of Health, No. 7236, in 1874.
John H. Clarke et als. vs. Board of Health, No. 7241, in 1874.
C. H. Mallory et als. vs. Board of Health, No. 7268, September 11, 1874.
Fred Baker vs. Board of Health, No. 7267, September 11, 1874,

In these cases judgment was rendered *pro confesso*, no defense having been set up by the Board.

I have written to Mr. F. A. Woolfley, Clerk of this Court, to ascertain whether final judgment has been pronounced in the above, and he has promised to send an answer, but none has yet come.

Messrs. Poitevent & Favre also applied for and obtained an injunction from the Superior District Court in 1874, restraining the Board of Health from the collection of quarantine fees.

I have asked Mr. O'Donnell, our attorney, to aid in ascertaining the legal status of these suits, and hope he will soon report to you, if he has not already done so.

Respectfully, your obedient servant,
S. S. HERRICK, M. D.;
Secretary Board of Health.

EXTRACTS FROM MINUTES OF THE BOARD OF HEALTH RELATIVE TO RESISTANCE TO PAYMENT OF QUARANTINE FEES.

NEW ORLEANS, May 20, 1874.

Dr. C. B. White, President, in the chair.

The President stated that the object of the meeting was to consider the injunction brought against the Board by Charles Morgan, restraining the Board from exercising the provisions of the acts of quarantine, approved March 15, 1855, and the amendment thereto, against the steamers owned and controlled by Charles Morgan.

Upon consultation, the Board agreed to test the legality of the injunction.

Upon motion by Mr. Burwell, seconded by Mr. Heath, it was resolved that the President of the Board be advised to take such action, after consultation with the attorney of the Board, C. S. Rice, Esq., as may seem necessary to be taken in the premises.

NEW ORLEANS, August 16, 1877.

Dr. Samuel Choppin, President in the chair.

A letter was read from the Attorneys of the Board (Kennedy & Austin) in reference to the collection of quarantine fees at the Atchafalaya Station.

Col. Hardee moved that the attorneys of the board be authorized to make a test case, and to employ counsel at Morgan City.

NEW ORLEANS, September 27, 1877.

Dr. Samual Choppin, President, in the chair.

Major Austin, attorney of the board, was called upon to express his opinion relative to the decision recently rendered in the suits for collection of dues at Quarantine Stations. He urged the necessity of pushing the collection of these dues, as owners of vessels had been exceedingly lax in their settlements.

I hereby certify that the above are true copies.

S. S. HERRICK. M. D., Secretary Board of Health.

COMMITTEE ON LEGISLATION.

OFFICE BOARD OF HEALTH, STATE OF LOUISIANA,
STATE-HOUSE, NEW ORLEANS, December 12, 1882.

Hon. I. N. Marks, Member Board of Health, State of Louisiana:

Dear Sir—I have the honor to appoint you a member of the Committee on Legislation; said committee has not been organized at an earlier date from causes well known to yourself.

It is important that the subject-matter of the resolution of Mr. Booth should be attended to, but it is of paramount importance to the welfare of the State of Louisisiana and the existence of the entire quarantine system, that the enclosed communication from the New Orleans Maritime Association should receive immediate and thorough attention. I have already explained this matter fully to one of the leading members of this association, but the explanation availed nothing with men who are determined to resist the law, and thereby avoid payment of the just quarantine dues established by the Legislature of Louisiana, and are willing to break down every barrier against the importation of foreign pestilence, and to utterly destroy at once the health and the commercial prosperity of the State.

As former Chairman of the Finance Committee, it is well known to you that the statements of these gentlemen are entirely incorrect.

No distinction has been made in favor of any one line. Whitney & Co. (formerly Morgan & Co.) have for years resisted the collection of quarantine fees imposed by the Legislature of Louisiana, and obtained an injunction against the Board of Health for the collection of these fees. One other line has also, in like manner, resorted to the courts of justice.

No distinction has ever been made by the Board of Health, or by the Finance Committee, or by the President, during my term of service, except that which has been forced by legal proceedings by the parties before named.

The statement that the fees are illegally collected is erroneous. The Quarantine Physician collects them according to the following acts of the Legislature:

* * * * * * * * *

It is also unjust to state that the quarantine fees are heavier here than in any other port in the United States. The ground upon which the decision was rendered against the Board of Health was, that our quarantine system instituted a tax on tonnage. In my opinion, it does not constitute a tax on tonnage, but we need legal advice on this subject. You know very well how much assistance I have received in this respect during my term of service as President of the Board.

I would respectfully suggest that the President of the Board of Health be empowered, immediately, to employ an active and learned legal adviser.

The Committee on Legislation, of which the President of the Board of Health is Chairman, should, at the earliest practicable moment, agree upon a definite line of action.

With kind regard, truly yours,

JOSEPH JONES, M. D.,
President Board of Health, State of Louisiana.

The opening of the great State of Texas to railroad trade and traffic, and the vast movement of grain and cattle inaugurated during the past three years, inspire all good and true citizens with renewed hopes of a brighter future, and solemnly warn the members of the General Assembly that the welfare of millions will be involved in the manner in which they may devise and execute the quarantine and sanitary laws for the exclusion of foreign pestilence from the Mississippi Valley. It is natural that men engaged in a special branch of business should be influenced by their interests and prejudices, and be incapable of judging impartially and reasoning accurately about those matters which relate to the health and welfare of the people, irrespective of trades, callings and professions.

In order to demonstrate that the proposed act to fix and regulate fees at the Mississippi Quarantine Station, etc., is not prejudicial to the commerce of New Orleans, and is not subversive of the best interests of Louisiana, and does not impose heavy additional charges on commerce, we will consider these questions in their broad relations to the remarkable political changes and revolutions, and epidemic visitations, which characterized this city and State.

I—PROGRESS OF COMMERCE AND POPULATION IN LOUISIANA DURING THE FRENCH DOMINATION, 1684-1763, WHEN NO QUARANTINE EXISTED.

For nearly a quarter of a century the French colonists endured a miserable existence, and nearly perished by starvation and disease on the barren sands of Ship Island and the adjacent coast, within and around Biloxi.*

A new era of prosperity and hope dawned when, in the spring of 1718, Bienville selected a site for a town on the banks of the Mississippi, and placed fifty men to clear off the ground for the location of the future capital of the province. Next spring the river overflowed its banks, the new settlement was completely inundated, and the site seemed to present an uncertain location for a city, and New Orleans remained for several years little better than a military post. In the beginning of August, 1723, Bienville removed his headquarters to New Orleans. In 1729 the white population of Louisiana, says La Harpe, amounted to about 1700 souls, and the black population to 3300.†

*A vessel from Havana, laden with provisions, brandy and tobacco, came early in January, 1709, to trade with the Colony of Louisiana. This was the first instance, ten years after the arrival of the French in Louisiana, of a vessel coming to trade with them.

In 1713, there were in Louisiana two companies of infantry, of fifty men each, and seventy-five Canadian volunteers in the King's pay. The rest of the population consisted of twenty-eight families, one-half of whom were engaged, not in agriculture, but horticulture; the heads of the others were shop and tavern-keepers, or employed in mechanical occupations. A number of individuals derived their support by ministering to the wants of the troops. There were but twenty-three negroes in the colony; adding to these, king's officer and clergy, the aggregate amount of the population was 380 persons. A few Indians and children were domesticated in the houses of the white people, and groups of the males were incessantly sauntering or encamping around them.

The collection of these individuals into one compact spot could have claimed no higher appellation than that of a hamlet; yet they were dispersed through a vast extent of country, the parts of which were separated by the sea, by lakes and wide rivers. Five forts, or large batteries, had been erected for the protection of Mobile, Biloxi, on the Mississippi, and at Ship and Dauphine Islands.

Lumber, hides and peltries constituted the objects of exportation which the colony presented to commerce. Lumber was easily obtained around the settlement of Biloxi. After the year 1709, vessels from St. Domingo and Martinique brought sugar, coffee molasses and rum to Louisiana, and took its peltries, hides and lumber in exchange. The colonists procured some specie from the garrison of Pensacola, whom they supplied with vegetable and fowls.

Those who followed this sort of trade, by furnishing also the officers and troops, obtained flour and salt provisions from the King's stores, which were abundantly supplied from France and Vera Cruz.

Trifling, but successful essays, had shown that indigo, tobacco and cotton could be cultivated to great advantage; but hands were wanting. Experience had shown that the frequent and heavy mists and fogs were unfavorable to the culture of wheat, by causing it to rust.

† Louis the Fourteenth, in the charter which he granted Crozat, bearing date September 26, 1712, announced that the attention the King had always given to the interests and commerce of his subjects, induced him, notwithstanding the almost continued wars he was obliged to sustain, since the beginning of his reign, to seek every opportunity of increasing and extending the trade of his colonies in America; that, accordingly, he had, in 1683, given orders for exploring the territory of the northern continent, between New France and New Mexico; and Lasalle, who had been employed in this service, had succeeded so far as to leave no doubt of the facility of opening a communication between Canada and the Gulf of Mexico, through the large rivers that flow in the intermediate space, which had induced the King, immediately after the peace of Riswick, to send thither a colony and maintain a garrison, to keep up the possessions taken in 1683, of the territory on the Gulf, between Carolina on the east, and Old and New Mexico on the west. But, war, having broke out soon after in Europe, he had not been able to draw from this colony the advantages he had anticipated, because the merchants of the kingdom, engaged in maritime commerce, had relations and concerns in the other French colonies, which they could not relinquish.

The King declared that, on the report made to him of the situation of the territory now known as the province of Louisiana, he had determined to establish there a commerce which will be very beneficial to France, it being now necessary to seek in foreign countries many articles of commerce, which may be obtained there, for merchandise of the growth or manufacture of the kingdom.

The King of France accordingly granted to Crozat the exclusive commerce of all the territory possessed by the Crown between Old and New Mexico and Carolina, and all the settlements, ports, roads and rivers therein—principally the port and road of Dauphine Island, before called Massacre Island; the river St. Louis, previously called the Mississippi, from the sea to the Illinois; the river St. Philip, before called Missouri; the river St. Jerome, before called the Wabash, with all the land, lakes and rivers mediately or immediately flowing into any part of the river St. Louis or Mississippi.

The territory, thus described, is to be and remain included, under the style of the government of Louisiana, and to be a dependence of the government of New France, to which it is to be subordinate. The King's territory, beyond the Illinois, is to be and continue a part of the government of New France, to which it is annexed; and he reserves to himself the faculty of enlarging that of Louisiana.

The right is given to the grantee to export from France into Louisiana all kinds of goods, wares and merchandise during fifteen years, and to carry on there such a commerce as he may think fit. All persons natural or corporate, are inhibited from trading there, under pain of the confiscation of their goods, wares, merchandise and vessels; and the officers of the King are commanded to assist the grantee, his agents and factors in seizing them.

The faculty is allowed him to send annually a vessel to Guinea, for negroes, whom he may sell in Louisiana, to the exclusion of all others.

The French had been unfortunate in the selection of the places they had occupied. The sandy coast of Biloxi is as sterile as the desert of Arabia. The stunted shrubs of Ship and Dauphine Islands announced the poverty of the soil by which they are nurtured.

Shortly after the settlement of Louisiana, Iberville, finding from Bienville's report that the English meditated an establishment on the Mississippi, determined on effecting one immediately. He departed for that purpose in the smallest vessel, with fifty Canadians, on the 17th of January, 1700, having sent Bienville, by the lakes, to the Bayagoulas, to procure guides to some spot in the lower part of the river secure from the inundation. They led him to an elevated one, at the distance of fifty-four miles from the sea, where Iberville met them soon after, and the building of a fort was immediately begun. In this contracted spot, on which Sauvolle had located his brother on the Mississippi, the few soldiers under him, insulated during part of the year, had the mighty stream to combat.

The buzz and sting of the mosquitoes, the hissing of the snakes, the croaking of the frogs and the cries of the alligators, incessantly asserted that the lease the God of Nature had given these reptiles of this part of the country had still a few centuries to run.

The settlement near the fort at Mobile suffered much in the spring of 1711 from the overflowing of the river; and, in consequence of which, at the recommendation of d'Artaguette, the spot was abandoned, and a new fort was built higher up, which, till a late day, stood immediately below the present city of Mobile.

In the barrens around this new fort of Mobile, the continual *sugh* of the needle-leaved tree seemed to warn d'Artaguette that his people must recede fruther from the sea before they came to good land.

Whilst it is true, during the first thirteen years war had in some measure checked the prosperity of the Colony of Louisiana, although during this period, with the exception of the descent of the crew of a privateer from Jamaica, no act of hostility was committed by an enemy within the colony; but the incessant eruptions on the land of the Indians, under the protection of Louisiana, by those in alliance with Carolina, prevented the extension of the commerce and settlement of the French toward the north. Yet all these difficulties would have been promptly overcome, if agriculture had been attended to. The coast of the sea abounded with shell and other fish; the lagoons near Mobile River were crowded with water fowls; the forest teemed with deer, the prairies with buffaloes, and the air with wild turkeys. By cutting down the lofty pine trees around the fort, the colonists would have uncovered a soil abundantly producing corn and peas. By abandoning the forts on the Mississippi, Ship and Dauphine Islands, and at the Biloxi, the necessary military duties would have left a considerable number of individuals to the labors of tillage; especially if prudence had spared frequent divisions of them to travel for thousands of miles in quest of ochres and minerals, or in the discovery of distant land, while that which was occupied was suffered to remain unproductive. *Martin, vol. 1, p. 177.*

The charter of the Western Company was registered in the Parliament of Paris, on the seventh of September, 1717; the exclusive commerce of Louisiana was granted to it, for twenty-five years, and all the King's subjects as well as corporate bodies and aliens, were allowed to take shares in it. All the other subjects of the King of France were prohibited from trading to Louisiana, under the penalty of the confiscation of their merchandise and vessels, but this was not intended to prevent the inhabitants from trading among themselves or with the Indians. The lands, coasts, harbors and islands in Louisiana were granted to the Western Company, as they had been to Crozat; it was authorized to make treaties with the Indians and to declare and prosecute war against them in case of insult; and the property of all Mexico was granted to it without payment of any duty whatever.

The faculty was given to it to grant lands, erect forts, levy troops, and recruits even in France; it was authorized to nominate the governor and the officers commanding the troops; and power was given to fit out ships of war and cast cannon, and to appoint and remove judges and officers of justice.

French vessels and crews alone were employed by the Western Company; and the King transferred to it all the forts, magazines, guns, ammunition, vessels, boats, provisions, in Louisiana, with all merchandise surrendered by Crozat. The company engaged to bring in, during its privilege, six thousand white persons and three thousand negroes.

The Western Company, to whom the exclusive commerce or Louisiana had been granted for twenty-five years, from the first of January, 1717, until the last of the year 1742, after lasting about fourteen years, finding themselves disappointed in the hope they had entertained of the profits of their commerce, and the advantages they had imagined would result from the charter; alarmed at the great loss they had sustained at the Natchez, and the great expense necessary to be incurred in the protection and defense or the province, solicited, on the twenty-second of January, 1732, the King's leave to surrender the country and their charter. By an arrest of the council of the following day, and letters patent, which issued therein, on the tenth of April, the retrocession made by the company of the property, lordship and jurisdiction of the province of Louisiana and its dependencies, together with the country of the Illinois, and the exclusive commerce to these places was accepted. The arrest declares the commerce of the retroceded countries free for the future to all the King's subjects.

When the Western Company received its charter, the settlements in the wide, extended country ceded to it were confined to a very narrow space at the Biloxi, Mobile River, Ship and Dauphine Islands. Two very small fortifications had been erected on the Mississippi—the one near the sea, the other at the Natchez, and one at Natchitoches on

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Commerce was Crozat's principal object and he contemplated carrying it on chiefly with the Spaniards. His plan was to have large warehouses on Dauphine Island, and to keep small vessels plying with goods to Pensacola, Tampico, Tucspe, Campeachy and Vera Cruz. His designs, however, were frustrated, the Spaniards, after the peace, refusing admittance to French vessels in those ports, on the solicitation of the British, to whom the King had granted privilege by the treaty of the Assiento.

Red River. Agriculture had hardly reared its head, though rice was sowed in the swamps. Horticulture supplied the tables of a few with vegetables, and enabled some of the rest to procure a little money by supplying the Spaniards at Pensacola.

When the Western Company resigned its charter, all the original settlements had considerably extended their limits, and a new one had been formed at the Alibamons.

New Orleans was founded. Although there was no plantation below it a considerable one, with a gang of upwards of one hundred slaves, had been formed opposite the city, and there were many smaller, but still considerable ones, at Tchoupitoulas and Cannes Brulées. A vast number of handsome cottages lined both sides of the river at the German coast; grantees of wide tracts had transported a white population, and sent negroes to Manchac, Baton Rouge and Pointe Coupée, and a settlement had arisen at Natchez, the rival of New Orleans; small colonies had gone to the Yazous and Arkansas, while others had descended from Canada to the Wabash and Illinois.

The culture of indigo and tobacco had been added to that of rice.

The forests yielded timber for various uses and exportation. Wheat and flour came down from the Illinois. Trade was carried on with the Indians at Natchitoches, Mobile, Alibamons and the Cadadoquois, far beyond the western most limits of the present State. Provision had been made for the regular administration of justice; churches and chapels had been built at convenient distances, and without, perhaps, any exception, every settlement had its clergyman, under the superintendence of a vicar-general of the Bishop of Quebec, of whose diocese Louisiana made a part. A convent had been built, the nuns of which attended to the relief of the sick of the garrison, and to the education of the young persons of their sex.

The monopoly which the company and Crozat had enjoyed and strictly enforced, had checked, and it may be said, destroyed the incipient trade the colony had before the peace of Utrecht; but the produce of the tilled land and the forest, the hides, skins, furs and peltries, which were obtained from the Indians for goods which were easily procured in the company warehouses at the Biloxi, New Orleans, the Natchez and the Illinois, and which were disposed of at an enormous advance, enabled the company to dispose of considerable quantities of merchandise.

The white population was raised from seven hundred to upwards of five thousand, and the black from twenty to two thousand.

The Crown, through Salmon, the King's Commissioner, received possession of Louisiana, and purchased all the property of the Western Company in the province, the appraised inventory of which amounted to two hundred and sixty-three thousand livres, not equal in value to sixty thousand dollars. The property of the Western Company consisted of some goods in the warehouses, a plantation opposite the city, which was partly improved as a brickyard, in which were two hundred and sixty negroes, fourteen horses and eighty thousand barrels of rice.

The negroes were valued at an average of seven hundred livres, or one hundred and sixty-three dollars and a third; the horses at fifty-seven livres, or twelve and a half dollars, and the rice three livres, or sixty cents and a third the hundred weight. At these prices nineteen hundred weight of rice were given for a horse; at the present value of rice (four cents a pound), the animal was worth seventy-six dollars, and the negro nearly one thousand dollars.

The commerce of Louisiana, released from the restraint of the exclusive privilege of the company, now began to thrive.

Indigo was cultivated to a considerable extent, and with much success, and with rice and tobacco, afforded easy means of remittance to Europe, while lumber found a market in the West India Islands. Important additions were made to the inhabitants by immigrants, and more especially by the unfortunate Acadians.

We have no precise data as to the actual population of the Province of Louisiana at the time of the cession of Louisiana to Spain, on the thirty-first of November, 1763; but according to a census of the inhabitants of the province, which was taken by direction of the first Spanish Governor, Don Antonio de Ulloa, it appears that there were one thousand eight hundred and ninety-three men fit to bear arms; one thousand forty-four marriageable women; one thousand three hundred and seventy-five boys, and one thousand two hundred and forty-four girls; in all, five thousand five hundred and fifty-six white individuals. The blacks were nearly as numerous.

If the history of Louisiana be viewed in connection with its commercial and agricultural development, during the French rule, extending from the settlement on Matagorda Bay by La Salle, in 1684, to the treaty of Paris, in 1763, when France ceded to Spain and England her possessions in North America, during which entire period not a single quarantine restriction was imposed on commerce, we arrive at the following conclusions:

(*a*). Under the French Government the growth of the population of Louisiana was very slow. According to a census of the inhabitants of the province, three years after the treaty of Paris, it had 1893 men fit to carry arms, 1044 marriageable women, 1375 boys, 1244 girls—in all 5556 whites. The blacks were nearly as numerous. The entire population of the province at the end of eighty years did not exceed 12,000.

The growth of New Orleans had been very slow, and in fifty-one years after its foundation the population amounted to only 3190 persons, of all colors, sexes and ages; and of this number 1265 were slaves. The number of houses was only 468, and the greatest part of them were in the third and fourth streets from the river. The commerce of New Orleans, and the province generally was exceedingly limited during the French domination.

Thus the exports of the province, during the last year of its subjection to France, was as follows:

Indigo	$100,000
Deer Skins	80,000
Lumber	50,000
Naval Stores	12,000
Rice, Peas and Beans	4,000
Tallow	4,000
	$250,000
An interlope trade with the Spanish Colonies took away goods worth	60,000
The Colonial Treasury gave bills on Government in France for	300,000
The province afforded means of remittance for	$670,000

Few merchant vessels came from France, but the Island of Hispaniola carried on a trade with New Orleans, and some vessels came from Martinico. King's vessels brought whatever was necessary for the troops and goods for the Indian trade. The indigo of Louisiana was greatly inferior to that of Hispaniola, the planters being quite unskillful and inattentive in the manufacture; that of sugar had been abandoned, but some lanters near New Orleans raised a few canes for the market.

The navigation of the Mississippi from the Gulf to New Orleans was very tedious before the introduction of steam, and often occupied one month. The commerce of the city was very limited during the French rule.

It is probable that La Salle and his men suffered with yellow fever in the West Indies as early as 1684, and they appear to have brought the yellow fever with them to the shores of the Gulf of Mexico. The next visitations of yellow fever were at Biloxi in 1701 and 1704. Iberville and 809 of his men died of yellow fever in the West Indies in 1706. The historian, Le Page du Pratz, states that six weeks before his arrival at Cape Francois, St. Domingo, in 1718, 1500 persons died of a distemper called the Siam disease, which was one of the French names for yellow fever.

It is probable that yellow fever caused the great mortality among the troops and convicts in 1718 on board the French ship, which had lost its reckoning and missed its destination, and passed to the west of the mouth of the Mississippi.

As early as 1726, eight years after the foundation of New Orleans, the severe fevers of the summer and autumn attracted the attention of the government. The force which Bienville assembled in 1736 for the subjugation of the Chickasaws consisted of upwards of 1200 whites and double that number of Indians and black troops. This comparatively large army unaccountably spent six months in making preparations for its march. In the meantime, the troops lately out from France became unhealthy, many died, and the climate had an almost equally deleterious effect on those from Canada. In the Chickasaw war peace was purchased at the price of many valuable lives, estimated at 500, out of 1200 white troops not slain in battle, but destroyed by fevers of the climate.

Experience having shown that European troops could not stand the labors in the field, but sickened and died under the burning sun of Louisiana and the chilling fogs of night, the Western Company was, therefore, compelled to introduce African negroes to cultivate the plantations scattered along the bayous and rivers of the delta of the Mississippi, and for several years it furnished the agricultural interests of the colony with several hundred annually—which was the origin of slavery in Louisiana.

We have failed to discover in the writings of La Harpe, Du Pratz, Charlevois, Martin, Gayarre and others, any facts sustaining the views advanced by some, that yellow fever was first imported into Louisiana during the French domination by the slave ships. The mortality on these ships was frightful, and was chiefly occasioned by bad diet, starvation, crowding, foul air, scurvy, diarrhea and dysentery.

NEW ORLEANS, February 26, 1884.

Dr. Joseph Jones, corner of Camp and Washington, city:

My Dear Sir—In a relation of the voyage of the Ursulines from Rouen to New Orleans, published in 1872, by Gabriel Gravier, a member of the Historical Societies of France and Normandy, and Secretary of the "Society of the *Bibliophiles de Rouen*." I have seen for the first time that Lawvolle died of yellow fever, in 1701. at the fort of Biloxi. I doubt the correctness of the statement, for in the numerous French documents which I have examined nothing of the kind is mentioned. I take it for granted that the author resides in Rouen. He might be written to with a view of ascertaining on what authority his statement is based. For greater security, the letter to him might be addressed care of the publishers, Messrs. Maisonneuve & Co., Paris, Quai Voltaire, No. 15.

Yours faithfully, CHARLES GAYARRÉ.

Hospital Street, No. 121, Near Dauphine.

II—PROGRESS OF COMMERCE AND POPULATION AND OUTLINE OF EPIDEMIC VISITATIONS IN LOUISIANA DURING THE SPANISH DOMINATION 1763-1802, IN WHICH PERIOD THE PROVINCE WAS WITHOUT QUARANTINE RESTRICTIONS AND LAWS.

New Orleans during both French and Spanish rule, was without quarantine regulations and an organized board of health.

That the commercial relations of New Orleans were considerably extended under the Spanish rule, is evident from the fact that in 1802, 258 vessels with a tonnage of 23,725 tons, entered the Mississippi; and during the same year, there sailed from the Mississippi 265 vessels with a tonnage of 31,241 tons.

The rapid increase of the population of New Orleans under the Spanish rule, and the great influx of strangers from the United States, from Spain, from Arcadia and the Canary Islands, formed a most important condition for the spread of yellow fever when once introduced.

In 1769, the total population of Louisiana amounted to 13,538, and that of New Orleans to 3190, while in 1803, total population of the province 49,473, and of New Orleans 8056; during the short period of thirty-four years the population had increased tenfold.

The fall of 1765 was very sickly in New Orleans as well as that of 1766, when the population of the city was reduced by an epidemic which is said to have closely resembled yellow fever. Yellow fever prevailed in Mobile in 1765, and according to Bernard Romans, was brought there by a regiment from Jamaica. The author, when describing the disease of the Floridas, says: "I am persuaded that where the yellow fever has made its appearance in the Floridas, it was imported from Jamaica or Havana, as was the case in 1765." Romans says that "the first visitation of yellow fever was in 1769. Since that time it has continued to be an almost annual scourge. It was introduced into this continent in the above year by a British vessel from the coast of Africa with a cargo of slaves.

Dr. Thomas fixes the first visitation of yellow fever in New Orleans in 1796, or about twenty years later. The army of 1400 men assembled by Galvez for an expedition against the English suffered considerable loss from the fevers incident to the climate.

Dr. Daniel Drake, who visited New Orleans and instituted personal inquiries, states that the first invasion of yellow fever of which we have an authentic account was in the year 1791. Dr. Drake's informant, Richard Relf, Esq., was one of the most venerable citizens of New Orleans.

On the ninth of May, 1794, Don Francisco Louis Hector, Baron de Carondelet, commenced the excavation of what is now known as the Old Canal Basin for the purpose of draining the stagnant water of the city and environs into the Bayou St. John, which he regarded as the cause of the epidemics which were so fatal to the prosperity of New Orleans. The great sanitary problem of New Orleans—drainage—engaged the attention of its governors for seventy-four years before the practical and valuable experiment of Baron Carondelet.

New Orleans was severely afflicted with yellow fever in the fall of 1796.

In 1787 the population of New Orleans was 5384, with a total mortality of 338, one death in 15.04 inhabitants, a ratio per 1,000 inhabitants of 63.92.

In 1796 the population of New Orleans was 8756, with a total mortality of 638, one death in 13 57 inhabitants, and 72.86 per 1000.

In 1787, when there was no record of an epidemic in New Orleans, the mortality reached the proportion of one in fifteen of the inhabitants, and in 1796 this heavy mortality was still further increased by the yellow fever, to one death in 13.7 inhabitants. The mortality of both these years, 1687 and 1796, was in relation to the actual population, far heavier than that of the year 1878, which is memorable for its epidemic of yellow fever, and which stands as third in the list of great epidemics in New Orleans, from its foundation in 1718 to the present time. The total mortality for 1878 was 10,318, or one death in twenty inhabitants, or 50.17 per 1000.

There are authentic works to show that yellow fever prevailed, or was present in New Orleans in 1794, 1795, 1796, 1797, 1798, 1799, 1801, 1802, 1803. In the light of such facts, it is but just to hold the view that New Orleans has been subject to pestilential fevers at various times since its foundation, and that the opinions as to its wonderful healthfulness from its foundation to 1796 are without foundation in fact.

As the yellow fever, more especially during the latter portion of the Spanish rule, during which period the commercial relations with the United States extended, attacked chiefly Americans; and as yellow fever ravaged during this period Philadelphia and New York, the contagionists of New Orleans accused the Americans of introducing the disease.

The foreign importation of yellow fever during the Spanish domination was referred to increased commercial relations.

No quarantine restrictions were imposed upon the commerce of New Orleans during the Spanish and French dominions; under the former the progress of the colony was slow; under the latter the increase of commerce and population was more marked. Therefore, during the first century of the existence of the colony of Louisiana, quarantine did not enter as an element for the exclusion of foreign pestilence, or for the advancement or destruction of commerce.

III—PROGRESS OF COMMERCE AND POPULATION, AND OUTLINE OF EPIDEMIC VISITATIONS IN LOUISIANA DURING THE AMERICAN DOMINATION, 1803-1882, IN WHICH QUARANTINE HAS BEEN ESTABLISHED AND MAINTAINED AT VARIOUS PERIODS.

On the twentieth of December, 1803, the United States Commissioners and forces entered New Orleans and took possession of Louisiana, in accordance with the treaty between Napoleon Bonaparte and the government of the United States.

In 1801 the yellow fever had, in the autumn, been very fatal in New Orleans, and in connection with other remarks on the subject, Governor Claiborne, in a message to the Legislative Council, on the seventeenth of December, 1804, called attention of that body to a plan devised by President Thomas Jefferson, to prevent the recurrence of such a calamity. Jefferson expressed the opinion that in building cities in the United States the people should take the checker board for their plan, leaving the white squares open and unbuilt forever and planted with trees.* Unfortunately the plan of Jefferson did not meet with favor in the gradual enlargement of New Orleans.

Louisiana was purchased by the United States from France by treaty, April 30, 1803, for about $15,000,000. In 1811, it was admitted into the Union; and this year is also memorable for the building of the first steamboat at Pittsburg. At that time, the quantity of land within the State, adapted to the cultivation of the three staples, was estimated as follows: Sugar, 250,000 acres; rice, 250,000; cotton, 2,400,000. The whole amount of sugar made in Louisiana in 1810, was about 10,000,000 pounds; in 1814, not less than 15,000,000; and in 1817, 20,000,000, or nearly one-third of the whole amount consumed in the United States.

Previous to the closing of Bayou Manchac by General Andrew Jackson, New Orleans was really situated on an island—*the Island of Orleans*—formed by the River Mississippi on one side, and the Lakes Pontchartrain and Maurepas, together with an outlet of the Mississippi, called Iberville, on the other about 160 miles long, and from three to fifty miles broad. The Island of Orleans produced sugar cane, maize, rice, indigo, cotton and tobacco, the peach, orange, three or four species of the fig, the banana, and most culinary vegetables.

The circumstance, however, that rendered the political and moral picture of Louisiana peculiarly distinctive was that almost the total of the production of the industry of its inhabitants flowed to one common centre. And it was boldly predicted, after the country fell into the possession of the United States, that: "New Orleans alone will be forever, as it is now, the mighty mart of the merchandise and produce brought from more than a thousand rivers. Unless prevented by some great accident in human affairs, this rapidly increasing city will, in no distant time, leave the emporia of the Eastern world

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* Referring to the probable growth of New Orleans, the President said:

"The position of New Orleans certainly destines it to be the greatest city the world has ever seen. There is no spot on the globe to which the produce of so great an extent of fertile country must necessarily come. It is three times greater than that on the eastern side of the Alleghanies, which is to be divided among all the seaport towns of the Atlantic States. There is also no spot where yellow fever is so much to be apprehended. In the middle and northern parts of Europe, where the sun rarely shines, they may safely build cities in solid blocks, without generating disease; but under the cloudless skies of America, where there is so constant an accumulation of heat, men cannot be piled one on another with impunity. Accordingly we find this disease confined to the solid built parts of our towns, and the part on the water side, where there is the most matter for putrefaction, but rarely extending into the thin built parts of the towns, and never into the country. In these latter places, it cannot be communicated. In order to catch it, you must go into the local atmosphere, where it prevails. Is not this then a strong indication that we ought not to contend with the law of nature, but should decide at once that all our cities should be thinly built?"

After these introductory observations, the President expressed the opinion that in building cities, in the United States, the people should take the checker-board for their plan, leaving the white squares open and unbuilt forever, and planted with trees. "As it is probable," he observed to Claiborne, 'that New Orleans must soon be enlarged, I enclose this same plan for consideration. I have great confidence that however the yellow fever may prevail in the old part of the town, it would not be communicated to that part which should be built on this plan, because this would be like the thin built parts of our towns, where experience has taught that a person may carry it after catching it in its local region, but can never communicate it out of that. Having very sincerely at heart that the prosperity of New Orleans should be uncheckered and great faith founded, I think, on experience, in the effect of this mode of building against a disorder which is such a scourge to our close-built cities, I could not deny myself the communication of the plan, leaving it to you to bring into real existence, if those more interested should think as favorably of it as I do. For beauty, pleasure and commerce, it would certainly be eminent."—*Executive Journal, vol. 1, p. 57. Hilsory of Louisiana, The American Domination: Charles Gayarre*, 1866: *pp.* 36-37.

far behind. With Boston, New York, Philadelphia and Baltimore on the left, Mexico on the right, Havana in front, and the immense Valley of the Mississippi in the rear, no such position for the accumulation and perpetuity of wealth and power ever existed."

Nearly three-quarters of a century ago Mr. Darby said: "By repeated admeasurement upon the best constructed maps the Mississippi River and its tributary streams drain more than 1,400,000 square miles. If this expanse was peopled only equal to Connecticut, in 1810, or about sixty persons to each square mile, the aggregate would be 84,000,000. It cannot be rashness to assert, if the present order of things continues to operate, that, at a period not more than two centuries distant, more than 100,000,000 of human beings will send the surplus fruits of their labor to New Orleans.*

On the twentieth of December, 1803, the United States commissioners and forces entered New Orleans and took possession of Louisiana, in accordance with the treaty between Napoleon Bonaparte and the government of the United States.

In 1803, New Orleans had a military hospital and a charity hospital, with a few houses, yielding to it a revenue of about $1500 a year. †

In 1802, two hundred and sixty-eight vessels (170 American, 97 Spanish and 1 French) of all kinds, with a tonnage of 23,725 tons, entered the Mississippi, eighteen of which were public armed vessels.

In the same year, there sailed from the Mississippi 265 vessels (158 American, 104 Spanish, 5 French) with a tonnage of 31,241 registered tons.

All the land on both sides of the Mississippi, from fifty miles below the city to Baton Rouge, had been granted to the depth of forty arpents, or one mile and a half, which is the depth of all original grants. Some had double and others treble grants, that is to say, a depth of eighty or one hundred arpents. A few grants extended as far as the sea, or a lake behind them. In other parts of the country the people, being generally settled on the banks of a river or creek, had a front of from six to forty arpents, and the grant generally expressed a depth of forty arpents.

No authentic census of the inhabitants of the province since that of 1788 is extant, but one made for the Department of State, by the Consul of the United States at New Orleans, from the best documents he could procure in 1803, presents the following results:

In the city of New Orleans, 8056; from the Balize to the city, 2388; at Terre-aux-Bœufs, 661; Bayou St. John and Gentilly, 488; Barataria, 101; Tchoupitoulas, 7444; parish of St. Charles, 2421; St. John the Baptist, 1950; St. James, 2200, Lafourche, 3098; Valenzuela, 1057; Iberville, 1300; Galvez (town), 247; Baton Rouge, 1513; Pointe Coupée, 2150; Attakapas, 1447; Opelousas, 2470; Washita, 361; Avoyelles, 432; Rapides, 753; Natchitoches, 1631; Arkansas, 368; Illinois and St. Louis, etc., 6028; Mobile, 810; Pensacola, 404; grand total, 49,473.

The annual produce of the province was supposed to consist of 3000 pounds of indigo, rapidly declining; 20,000 bales of cotton, of 300 pounds each; 5000 hogsheads of sugar, of 1000 pounds each, 5000 casks of molasses, of 50 gallons each.

There were but few domestic manufactures. The Acadians wrought some cotton into quilts and homespun, and in the more remote parts of the province, the poorer kind of people spun and wove wool mixed with cotton into coarse cloth.

There was a machine for spinning cotton in the parish of Iberville, and another in Opelousas, but neither was much employed. In New Orleans, there was a considerable manufacture of cordage, and a few small ones of hair powder, vermicelli and shot. There were near the city about a dozen distilleries, in which about four thousand casks of taffa, of fifty gallons each, were made, and a sugar refinery, which produced about 200,000 pounds of loaf sugar.

1805—In July, 1805, after James Pitot had resigned his commission as Mayor, and Watkins had been appointed in his place, the new City Council went actively to work and to plan improvements. It passed resolutions requesting the evacuation of the forts around the city, which were occupied by the troops of the United States, their speedy destruction, and the filling up of the ditches, which surrounded the forts of New Orleans. Claiborne partially complied with their request. In a communication of the

*New Orleans is distant, by water, from the English Turn, 13 miles; Fort St. Philip, 70; Balize 102; the bar and sea, 105; Fort St. John, 5; Fort Petites Coquilles, 19; Mobile and Blakely, 164; Madisonville, over the Lake, 57; Natchez, 310; Bayou Sara, 160; Opelousas Church, 220; Natchitoches, 417; Hot Springs of Ouachita, 645; Alexandria, 344, Mouth of the Ohio, 1050, Falls of Ohio, 1490, Pittsburg, about 1900; St. Louis, 1180; and the mouth of the Columbia River by St. Louis, 4700. *By Land*—Natchez, by Madisonville, 156; and by way of Baton Rouge, 224; Fort Stephens, 252; Fort Stoddard, 212; Nashville, by Madisonville, 480; Opelousas Church, 242; Philadelphia, by Knoxville, 1500; New York, by Knoxville, 1600; Natchitoches, 256; Nacogdoches, 437; St. Antonio, 744; City of Mexico, 1549; and Washington City, 1233 miles.

† In 1804, the city of New Orleans was made a port of entry and delivery, and the Bayou St. John a port of delivery.

The first act of incorporation was granted to the city of New Orleans by the Legislative Council of the territory in 1805, under the style of the Mayor, Aldermen and inhabitants of the city of New Orleans. The officers are Mayor, a Recorder, fourteen Aldermen and one Treasurer. This year a branch of the United States Bank was established in New Orleans.

second of August, he said to them: "I am strongly impressed with the opinion that the stagnant water which accumulates in the old fortifications must prove injurious to the health of the city, that I cheerfully consent to the levelling of all of them, except those of Forts St. Charles and St. Louis. These two forts are garrisoned by troops of the United States, and cannot be evacuated but in pursuance of orders emanating from the President. Desirous, however, of co-operating with the City Council in all measures which may conduce to the health of the city, I have no objection to the draining of the ditches in the vicinity of St. Charles and St. Louis, under an impression that it can be done without injury to the works."

1806—The population of Louisiana was 52,998; slaves, 23,544; free people of color, 3355; whites, 26,069; of these, at least 13,500 were natives of Louisiana, for the most part descendants of the French; about 3500 natives of the United States, and the residue Europeans. In the beginning of July, Claiborne departed from New Orleans, partly to avoid a residence in the city during the sickly season.

GENERAL CENSUS OF THE TERRITORY OF ORLEANS FOR 1806.

County.	White Males Over 21.	White Males Under 21.	Females of all Ages.	Col'd Males, Females and Children Free	Slaves.	Total.
Orleans	2,108	1,422	2,781	2,312	8,378	17,001
German Coast	555	647	972	229	3,285	5,688
Acadia	607	822	1,332	53	2,248	5,062
Iberville	362	461	731	71	965	2,590
Lafourche	586	977	1,335	25	610	3,533
Point Coupée	267	258	443	115	2,251	3,334
Attakapas	720	877	1,333	166	1,826	4,922
Opelousas	584	771	1,104	239	1,091	3,789
Rapides	488	513	746	15	716	2,478
Natchitoches	407	270	410	121	1,209	2,417
Ouachita	200	143	256	4	122	725
Concordia	163	182	236	5	873	1,450
Total	7,047	7,343	11,679	3,355	23,574	52,998

ARRIVALS AND DEPARTURES OF VESSELS IN THE PORT OF NEW ORLEANS.

	Mar. 1807	April	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan. 1808	Feb.	Mar.	Total.
Arrivals, ships	16	34	30	20	34	38	8	11	20	35	37	22	9	314
Departures, ships	20	49	44	27	26	19	10	11	14	20	51	11	8	350
Arrivals, ships	96	106	173	44	4	2	0	0	0	5	0	0	0	340
Departures barges and keel-boats	1	8	2	0	0	0	0	0	0	0	0	0	0	11

N, B.—According to this tableau, 316 vessels have cleared loaded with products of Louisiana or of imported goods. Vera Cruz and Havana had a certain number. Florida and Attakapas also.

TABLE OF BIRTHS, DEATHS AND MARRIAGES IN THE CITY OF NEW ORLEANS from March, 1808, to March, 1809. Population October 30, 1808, 15,000.

1808.		Births.		Deaths.				Marriages.	
				Adults.		Infants.			
		W.	C.	W.	C.	W.	C.	W.	C.
April	Catholic	23	80	2	16	4	4	1	0
	Protestant			6	1	1			
May	Catholic	24	92	16	28	2	12	5	0
	Protestant			4					
June	Catholic	9	26	4	9	6	12	3	0
	Protestant			5					
July	Catholic	25	61	9	19	5	9	2	0
	Protestant			6					
Aug.	Catholic	24	57	8	22	7	9	2	0
	Protestant			6					
Sept.	Catholic	19	47	9	14	3	13	3	0
	Protestant			12					
Oct.	Catholic	26	51	14	11	4	11	5	0
	Protestant			16					
Nov.	Catholic	24	54	16	16	3	3	5	0
	Protestant			13					
Dec.	Catholic	15	22	9	11	2	3	2	0
	Protestant			8	3	1			
Feb.	Catholic	11	15	6	12	1	6	4	1
	Protestant			12	1				
Mar.	Catholic	6	16	12	14	2	5	4	
	Protestant								
Total		137	319	318	286	56	109	60	8

FROM LAFON'S ANNUAIRE LOUISIANAIS OF 1809.

DOCTORS AND SURGEONS OF NEW ORLEANS.

J. B. Conrotte	27 St. Louis street.	Keene	70 St. Louis street.
Conand	27 St. Louis street.	Y. Labie	10 North Bourbon street.
R. Dow	10 Conde street.	G. Montegut	6 North Royal street.
Deveze	16 Dumaine street.	J. Mitchel	58 St. Louis street.
W. Flood	12 Customhouse street.	N. Robelet	44 Dumaine street.
L. Fortin	15 South Royal street.	Raoul	4 South Levee street.
D. Fleitas	32 North Bourbon street.	O. Spencer	8 Bienville street.
Henderson	17 Bienville street.	St. Nudard	On the Suburbs.
C. Gros	23 Toulouse street.	J. Watkins	Bayou St. John.

APOTHECARIES.

Anfoux	19 South Royal street.	Leonard	5 Chartres street.
Blanquet	22 Bienville street.	Ferbin	41 Chartres street.
Duffiloil	12 Toulouse street.		

DENTISTS.

Gardeth	17 North Royal street.	Roger	36 Dumaine street.

1808.—In the month of March, the City Council requested the Governor to consent to the demolishing of Fort St. Louis and the filling up of the trenches surrounding it, "inasmuch as it impeded the communication between the town and the suburb St. Mary, and the trenches were receptacles of stagnant water and all manner of filth which engender disease—and the further request was that the material of said fort be left at the disposal of the Council of the city." Claiborne consented to the first part of the request, but ordered that the material of the demolished fort be left at the disposal of the military agent of the United States who would employ them elsewhere for public levees.—*Executive Journal, p.* 181, *vol.* 3; *History of Louisiana, Am. Dom., Gayarre, p.* 194.

Between the nineteenth of May, and the thirteenth of July, 1809, thirty-four vessels arrived from the Island of Cuba, with 5797 individuals, of whom 1828 were white, 1978 free blacks or colored persons, and 1991 slaves. These people had sought a refuge in that island on the insurrection of the blacks in Hispaniola.

On the second of November, 1808, the Secretary of War directed General Wilkinson to take measures, without delay, for assembling at New Orleans and its vicinity, a large portion of the regular troops, as circumstances would allow. General Wilkinson reached New Orleans on the nineteenth of April, 1809. The force which he found in the city was a little less than 2000 men, and one-third of it was on the sick list.

HOPITAL DE CHARITÉ.

L'ancien hôpital de charité fondé par les Français, fut entierement detruit par l'ouragan de 1779. Don Andres Almonaster y Roxas, Colonel des Milices de cette ville. Alfarés Royal, Regidor perpétual et chevalier de Saint Charles, fonda celui qui existe aujourd'hui, en l'année 1786. Il le construisit entier à ses frais et dépends, le meubla de tous les utensiles nécessaires au service et soulagement des malades, et lui legua cinq esclaves à talent, en assignant pour les rents les boutiques au riz de chausée de l'encognure rue St. Pierre et de la Levée; Il fit aussi reparer à ses depends cinq petites maisons, propriété de l'ancien hôpital.

Il en fut nommé patron, et a son décès ses enfants légitimes, et à defaut d'eux, les enfants de ses deux sœurs, ou en cas de maladie le colonel de milices.

La dotation est pour vingt-quatre lits destinés des maladies qui ne soient ni incurable ni lépreux, mais pauvres et reconnus pour tels. Si quelques autres maladies, n'étant point rangés dans la classe des pauvres, veulent s'y faire traiter, ils sont tenus à payer une redevance particulière, pour ne pas se faire prejudicier aux founds detaux. Cet fondation fut déclarée par le monarque sous sa protection royalle immediate, suivant l'institution et la volonté du fondateur, avec les privilèges et les droits attachés au patronat.

MICHAEL ANTONIETTE LEONARDE ADMONASTER, Patron.
DON ANDRE FERNANDEZ, Majord.
JUAN XIMENS, Admis.
BLANQUET, Medecin.

—*Annuaire Louisianais pour l'Annee* 1809, *par B. Lafon, Ingenierie Geographe a la Nouvelle Orleans de l'Imprimerie de l'Auteur.*

He spent some time in reconnoitering the country around, in search of a spot, from which the troops might readily be brought into action, in case of an attack, and in which they might, in the meanwhile, enjoy as much health as the climate would allow. His choice fell on an elevated piece of ground on the left bank of the Mississippi, about eight miles below the city, near the point at which the road leading to the settlement of Terre-aux-Bœufs leaves that which runs along the river. The troops had hardly been three weeks encamped at Terre-aux-Bœufs when the most peremptory order from the Department of War, of the twenty-fourth of August, was received by General Wilkinson, directing him to embark his whole force, leaving only sufficient garrisons of old troops at New Orleans and Fort St. Philip, and to proceed to the high grounds in the rear of Fort Adams and Natchez. A difficulty in procuring boats, and other circumstances did not allow the troops to begin ascending the river, before the fifteenth of September;

their progress lasted forty-seven days, during which time, out of nine hundred and thirty-seven men who embarked, six hundred and thirty-eight were sick, and two hundred and forty died.

That yellow fever prevailed in New Orleans in 1809 is evident not only from the statements of Dr. Henstis, but also from the following facts communicated to Professor Hosack, of New York, by a gentleman of New Orleans:

"It is well known to nearly all the inhabitants of La Fourche that in the year 1809 Captain Edward V. Turner and his wife, who resided at Point Houmas Plantation, lost their lives by opening a trunk of clothes, which had been sent from New Orleans during the prevalence of yellow fever; that they immediately sickened and died with black vomit, as did also the negro nurse who attended them."—An Account of the Yellow Fever as it Prevailed in the City of New York in the Summer and Autumn of 1822. By Peter S. Townsend, M. D. New York, 1823. Appendix, 345.

1809.—The revolution of St. Domingo had caused a French emigration into the Island of Cuba, and the ruthless invasion of Spain by France was a cause of another exodus of these same refugees, who sought in Louisiana an asylum which was denied them in that country, where they had become objects of hatred and suspicion. In the month of June, many of these emigrants had already arrived in New Orleans, some with their slaves and whatever other property they could bring with them, and others utterly destitute. Notwithstanding the hostility shown to them by a portion of the population of Louisiana, the flood of emigration had continued to pour in, and on the eighteenth of July their number amounted to 5759, of whom 1798 were white people, 1977 free colored and black, and 1979 slaves. The perturbed state of the world at that time was the cause that many individuals, whose condition became unsettled, were looking around for places where they could better their fortunes, and not a few of them were daily arriving in New Orleans, from almost every quarter of the horizon which embrace the civilized portion of the earth, and particularly from Jamaica, Guadeloupe, and the other West India Islands. British aggressions and conquests in those regions had disposed many of their French inhabitants to seek for refuge elsewhere. In consequence of the steady tide of emigration which was flowing toward Louisiana, chiefly from the shores of San Domingo, Cuba, Jamaica, and Guadeloupe, house rent in New Orleans and the price of provisions had become so extravagantly high, that in the month of November, 1809, families who had but limited resources began to find them drawing to an end, and the number of the poor destitute were daily augmented.

In consequence of the frequent ravages of the yellow fever, particularly in the autumn of 1809, Claiborne recommended to the Legislature the policy of making, some general health laws, which should enforce cleanliness, and subject the shipping entering the Mississippi to those quarantine regulations which at other places had proved salutary."—Executive Journal, vol. 4, p. 219. Louisiana-American Domination. Gayarre, pp. 220-229.

By a census taken in the year 1810, by the Marshal of the United States, under an Act of Congress, it appears that the population of the Territory was as follows:

City and Suburbs of New Orleans, 17,242; Precincts of New Orleans, 7,310. Total, 24,552.

Plaquemines, 1549; St. Bernard, 1020; St. Charles, 3291; St John Baptist, 2990; St. James, 3955; Ascension, 2219; Assumption, 2472; Lafourche, 1995; Iberville, 2679 Baton Rouge, 1463; Point Coupée, 4539 Concordia, 2895; Ouachita, 1077; Rapides, 2200; Catahoula, 1164; Avoyelles, 1209; Natchitoches, 2870; Opelousas, 5048; Attakapas 7369. Grand total, 76,556.

We observe, therefore, that the population of the Territory of Orleans had been rapidly augmented by emigration from the United States, and in seven years (1803-1810) had increased from 49,473 to 76,536, and the City of New Orleans from 8056 to 24,552.

On the tenth of January, 1812, the inhabitants of New Orleans witnessed the approach of the first vessel propelled by steam which floated on the Mississippi, the New Orleans, from Pittsburg. The captain stated he had been but 259 hours actually on the way.—Martin's History of Louisiana, vol. 3, p. 311.

This speed seemed at this time to be marvelous, and the whole population flocked to the river to examine the wonderful creation of the genius of man.

On the nineteenth of August, 1812, Louisiana suffered from a severe hurricane, the ravages of which exceeded those hitherto known by any one of the inhabitants. Several buildings were blown down in New Orleans, particularly a very large and elegant market-house.

1813.—In this year Claiborne expatiated at length on the sufferings and losses of the planters on account of the overflows of the Mississippi, from the Parish of Concordia down to the Parish of Plaquemines, inclusively. Even New Orleans had been partially inundated by a break in the levee at Kenner's plantation, some ten or twelve miles above the city. This overflow was not the only calamity which New Orleans was to suffer. It

was afflicted as much by fire as by water. Constant conflagrations had produced a feeling of despondency in the inhabitants, as no one was sure of a safe night's rest in his own house, which might be burned over his head before the next dawn of day. To remedy this evil, Claiborne, on the twenty-sixth of June, offered a reward of $1000 to any individual who should give such information as might lead to the discovery and punishment of these lurking incendiaries.—History La. Am. Domination. Gayerre, p. 292.

Captain Edward Pelham Brenton records the interesting fact that the black soldiers of the West Indies, who comprised a portion of the British forces which invaded Louisiana the winter of 1814–1815, suffered severely from cold. Thus he says:

"Warm clothing for the black regiments had been urgently requested by Sir Alexander Cockrane, but none was sent; and these poor natives of a torried zone perished with cold on the shores of North America, where, on their arrival, they found the oranges frozen on the trees." "The weather was bad, the gales strong, and the cold intense. This fact is singular, and almost incredible, considering the latitude (29° N.) The soldiers, and particularly the black, suffered exceedingly."—The Naval History of Great Britain from the year 1783 to 1826. London, 1837. Vol. 2, pp. 530—532.

1815.—"On the evening of the eighth of January, 1815, the inhabitants of New Orleans witnessed the arrival of a long train of wounded prisoners, whose number amounted to about 400. Immediately a large quantity of lint and old linen for dressing their wounds, of matresses and pillows and other articles for their comfort, were furnished by private contributions. All kinds of refreshments and every attendance which their situation required were liberally provided by the spontaneous action of the citizens. The colored women of New Orleans have acquired an honorable reputation for the skillful nurses they supply during those fatal epidemics which have so often devastated that city. On this occasion several of them tendered their services gratuitously, and deserved the lasting gratitude of the numerous wounded whom they attended with the most humane disinterestedness."—History of La. Am. Domination. Gayarre, p. 478.

"The happy effect of peace was soon felt in Louisiana. On the sixteenth of March Governor Claiborne wrote to Mr. Monroe, Secretary of War: 'Great is the change which the return of peace has already made in this capital (New Orleans). Our harbor is again whitening with canvas; the levee is crowded with cotton, tobacco, and other articles of exportation. The merchant seems delighted with the prosperity before him, and the agriculturist finds in the high price for its products new incitements to industry.'"—Ibid, p. 535.

Near the close of the year 1815 the entire population of Louisiana did not exceed 90,000 souls, of whom one-half were black. The greater portion of this number were concentrated in the city of New Orleans and upon the river coast for thirty miles below and seventy miles above the city. The inhabitants of these river settlements were chiefly Creole French, with a small admixture of Anglo-Americans. It was only after the year 1815, when Louisiana was relieved from the dangers of foreign invasion, and began to reap the advantages of steam navigation on the river, that the State and New Orleans began to take the proud rank they now enjoy, in population, commerce, agriculture, and arts. In 1830, the State had increased to 215,740 persons, including 126,300 blacks. The census of 1840 gave an aggregate of 352,400 souls, including 168,452 slaves, which in 1845 had increased to more than 400,000 In point of agricultural and commercial importance, Louisiana had advanced to an elevated rank as early as 1830. In mercantile transactions, New Orleans in 1840 had attained a standing which placed her second only to New York, and the staple productions of the State were perhaps inferior in value to none in the United States.

1817.—A gentleman of New Orleans communicated to Professor Hosack the fact that in 1817 a trunk of dry goods or clothes were forwarded to the Choctaw Agent, who caught the yellow fever by unpacking the trunk, and died with black vomit. This circumstance, as well as the name of the Choctaw Agent, was well known to Mr. Flower, of New Orleans.—An Account of the Yellow Fever as it Prevailed in the City of New York in the Summer and Autumn of 1822. By Peter S Townsend, M. D., p. 346.

A Medical Examining Board, "Comité Médical," having functions also of an advisory character relating to the public health, was in active operation in 1817.

That a well-organized medical society, composed of accomplished and learned French physicians, existed in the years 1817 and 1819, is evident from the following observations relating to the epidemics of yellow fever of these years, which I have derived from various original sources, but chiefly from the records of the Societe Médicale:

1817.—The yellow fever committed ravages in New Orleans during the summer and fall of 1817, confining itself chiefly to Europeans and Americans. The epidemic declared itself during the month of July, but in the preceding month of June symptoms of the disease had been manifested in various portions of the town, but chiefly at the Civil Hospital, where it showed itself before the arrival of the schooner from Havana, which had lost part of her crew by the vomito. The disease continued its ravages dur-

ing July; assumed a greater degree of intensity in August, on account of the great number of Europeans who landed and Americans who came down the river. The epidemic diminished after a severe storm, which took place at the commencement of September. The weather was changeable until the twentieth of that month, then the south wind commenced blowing again; the heat increased, accompanied with dampness, and the disease attacked several individuals newly arrived in the city. At length it disappeared in the month of October, except at the Civil Hospital, where it reigned for some time.

"MM. Gros and Gerardine, in their *'Rapport,* Fait a la Societé Médicale, sur la Fièvre Jaune, qui a regné d'une manière epidemique, pendant l'Eté de 1817,' held that the disease was caused by the peculiar topography of New Orleans; abundant rains filling the stagnant marshes; excessive heat of the summer and influx of strangers. This disease of endemic nature has become epidemic on account of a concurrence of circumstances favorable to its progress and developement. It has not been contagious, but it is supposed that, under certain circumstances, it may become contagious.

1819.—Yellow fever visited New Orleans as usual in the autumn. "But a great part of her inhabitants had become almost reconciled to its ravages, from the frequency of its return. For these it had no more terror than had the ancients for the skull which used to figure among the roses, and other legacies that adorned their banqueting tables. There were even some who felt friendly to the scourge, as, in their opinion, it checked that tide of emigration which otherwise would have speedily rolled its waves over the old population, and swept away those landmarks in legislation, customs, language, and social habits, to which they were fondly attached."—*History of Louisiana: American Domination. Gayarre, p,* 636.

1819.—The yellow fever of 1819 appeared on the seventh of May, when one, named John Gifford, was attacked and died. After this it manifested itself in another fatal case, continued in a sporadic form, augmenting progressively until the commencement of August, at which time the patients multiplied at such a rate at the hospital and in the town, that from that time it was regarded as an epidemic. It continued with great intensity until the commencement of August, at which time the patients multiplied at such a rate at the hospital and in the town, that from that time it was regarded as an epidemic. It continued with great intensity until the commencement of November, when the number of patients diminished in a sensible manner, until the middle of December, which was regarded as its definite termination. The committee of physicians appointed by the "Societé Médicale de la Nouvelle-Orleans" to investigate the origin and nature of this epidemic, state that the yellow fever of 1819, as well as that of 1817, manifested itself sporadically from the month of May, but it became, at an earlier date, an epidemic in 1817, as it was regarded as such in the month of July, whereas it was not so pronounced in 1819, until the commencement of August; which appears to indicate that the cause was more intense in 1817; however, the epidemic of 1819 lasted a longer time, terminating in December, while that of 1817 was considered as having terminated in October. The greater number of persons affected in both epidemics were Europeans or Americans, recently arrived. The Creoles of New Orleans, however, were not entirely exempt from the ravages of the fever. In 1817, not one negro is said to have been attacked by the disease, whereas in 1819 several died with yellow fever. Malarial and intercurrent fevers were more common in 1817. In 1819, yellow fever superseded all other diseases.

The committee referred the yellow fever in 1819 to the burning heats of July, August and September, frequent rains, and stagnant water in the marshes. They regarded the yellow fever of 1819 as constitutional, non-contagious, indigenous (of spontaneous origin), and *non-imported.* Individuals contracting the disease in the city did not communicate it to their families in the country. Not one of the inhabitants of St. Domingo was attacked by the yellow fever of 1819. In fine the committee* regarded the yellow fever of 1819 as due to heat, humidity, and local causes.

1820.—A gentleman of New Orleans communicated the following facts to Professor Hosack, of New York, illustrating the contagious nature of the yellow fever of 1820:

"During the present season (1820) a Miss Ouden, daughter of the watchmaker, who had lately arrived from France, and resided with a Miss Vignon, whose father lives near the Catholic Church, caught the yellow fever, and was sedulously attended night and day by her friend till given over by her physician, when, to avoid the distressing scene of her disease, Miss Vignon retired to the school of Mr. La Fort, up the coast, which till that moment enjoyed perfect health. Miss Vignon, a Creole, was not affected with the disease, and it did not occur to Mr. or Madame La Fort, that she could communicate it by means of her clothing, etc. Mark the result! She, who had been the bed-fellow of Miss Ouden, also slept with one or both of the Misses Glovereys, nieces of Madam La

* Rapport Publié au nom de la Societé Médicale de la Nouvelle-Orleans, sur la Fiévre Jaune qui y a regné épidémiquement, durant l'Eté et l'Automne de 1819. Nouvelle-Orleans. The members of the committee were Trabue, "President de la Societé Médicale," Fortin, President du Comité, Martin, Connant, Miltenberger, Lacroix and Thomas, "Secrétaire Rapporteur."

Fort, who both took the fever and died of its worst symptoms! Fortunately, the medical attendant in that institution is one of those liberal practitioners, who so far from seeking to persuade others that this disease is not infectious (and thereby being the means of its circulation), enforces every possible precaution; and at his instance the pupils were immediately dispersed to places of security, one orphan boy, John Rouve, of Bayou Sara, only excepted and he having no place of refuge, fell a victim to the black vomit. Not one of those who left the seminary at that first alarm took the disease.

"If you are acquainted with that part of the upper suburbs called the Nun's Point (a little below Rousseau's plantation) you must have remarked its high and healthy situation, elevated several feet above the level of the city, at a great distance from the swamp and all stagnant water. There the inhabitants enjoyed the state of health to be expected from the purity of their atmosphere, entirely isolated from that of the city, till the following circumstances spread among them desolation and death. Next door to Robin de Logny's there is a very inferior kind of a boarding-house, kept by a man named Marsh, who it seems went to town in quest of *sick boarders*, and having found one (Gilfillan, of the State of Pennsylvania) with the yellow fever, he brought him to his house in a carriage, regardless of the safety of the other inmates. On the second or third day after his removal Gilfillan died; next a Mrs. Jones, of Virginia; then Mr. Crane, Madam and Mr. Granville, all of Ohio; a young child of Mrs. Howell, and lastly, one of Marsh's own children, all died of black vomit. A Mrs. Vodridge and a mulatto woman likewise had the yellow fever; the former was saved by being removed to a female hospital, and the latter recovered. Marsh, his wife, and Mrs. Howell, who had the disease last year, appear to be the only persons in that house who did not take the infection.

"There is a long red building opposite to Madame Nadian's, the property of John Mornay, which is divided into six tenements, and is usually occupied by as many families. In this building there were the following persons: Madame Odrigues, a Creole; Mr. and Mrs. Schofield, Mrs. Hill and her daughter, the widow Jones, both of which families had several children; Mr. Rodgers, chairmaker, and his wife; besides these there lodged at Mrs. Hill's a Mr. Napper, a carpenter, and a Madame Odrigues, also John Smith, a mason. The fever was first brought among them by Napper, who caught it in the city, and died at Mrs. Hill's; a negro woman caught it of him, and recovered; next Mrs. Jones, who also attended Napper, caught it in the city, and died at Mrs. Hill's; next Mrs. Hill, whose body being taken to the grave by John Smith he complained of the unusually offensive smell, and sickened and died also. All these were marked cases of yellow fever, and terminated in *black vomit*. Two younger children of Mrs. Hill's and two of Mrs. Jones' also had the disease, but recovered. In the same building Mr. Rodgers and his wife both had the yellow fever, and the latter died. Mr. and Mrs. Schofield likewise had it. Within gunshot of the same spot, in a kitchen of John Mornay's former abode, lives an honest German, usually called Dutch Joseph. This man being on board a German vessel in the river, infected with yellow fever, found an acquaintance extremely sick, and was induced by compassion to bring him to his own dwelling, where the man shortly died of that disorder, having first communicated it to Joseph's own wife and a young girl, both of whom also died, and but for the attention of Dr. Forsyth and the introduction of Guyton Morveau's fumigation it is probable the whole household would have perished.

"The above facts are not only confirmed by eye-witnesses among the survivors, but by Dr. Forsyth himself, who attended most of the above patients, and who has very properly taken notes of the circumstances, under the most solemn conviction that the above numerous cases of fever originated in the contagion communicated by the three individuals respectively stated.

"In the meantime there are families within view of the three last described houses, and consisting of a dozen persons, unseasoned to the atmosphere of the city in the sickly months, who have remained exceedingly healthy and perfectly secure from malignant diseases by vigilantly guarding against any communication with the sick.

"Having thus detailed to you the manner of the yellow fever being introduced by four infected individuals into as many different habitations, all of these situated in a pure atmosphere, free from every predisposing cause of disease, and shown that, including the *four* first cases, about *thirty* persons have caught the infection, of whom not less than eighteen have died, I beg you to reflect on the probable consequence of four similar cases being introduced among the dense population of any city in the Union, and whether thousands would not have fallen victims unless effectual measures were adopted to interpose a barrier between the sick and the sound.

"There were one or two other striking instances of contagion that occurred below the city. An Irishman who went from town to General Wilkinson's plantation fell sick shortly after his arrival, and died with the black vomit. He *was attended by a man who had not been to town during the season; he also caught the disease*, and died.

"The yellow fever was likewise taken to Mr. Fleckner's plantation by a white man from town, who there died; also the negro nurse who attended him, and the nurse of that negro also.

"Mr. Livingston's overseer, who had not been near the city, visited one of those sick white men, and he also took the disease, and died with black vomit.—An account of the yellow fever as it prevailed in the city of New York in the summer and autumn of 1822 By Peter L. Townsend, M. D. New York, 1823, pp. 346-349.

1820—The deaths from yellow fever for the year numbered 400. Deaths from yellow fever in the hospital, eighty-two. First admission, July 21; the last, December 21.

In this year the physicians of New Orleans and its vicinity, "believing that a frequent interchange of opinions on subjects connected with their profession is the most effectual mode to promote its interest and extend their knowledge," formed a society or association known by the name of the Physico-Medical Society of New Orleans.*

ESTABLISHMENT OF THE FIRST QUARANTINE AND BOARD OF HEALTH IN NEW ORLEANS.

The City and State authorities, fully alive to the sanitary interests of New Orleans, enacted health laws of the most stringent and extensive character, on the sixth of March, 1816, and eighteenth of March, 1817. Although these acts appeared to exhaust the subject of hygienic legislation, they had no apparent effect on the march of yellow fever.

Dr. Bennet Dowler states that quarantine laws were enacted in the winter or before the hot season (Tableau of the Yellow Fever of 1853, p. 14), but Dr. W. M. Carpenter quotes the New Orleans Gazette to the effect that "In consequence of the positive proofs of the importation of the disease in the dreadful year of 1817, the Legislature of that winter passed a quarantine law which, though far from perfect in its structure, might have been considered as a pledge of more efficient precaution."—Sketches from the History of Yellow Fever, p. 17.

The mortality for August, 1817, was 487; September, 304; October, 172; total for the three months, 965. This record was taken from the various cemeteries. Dr. Bennet Dowler gives the mortality during five months, as white male adults, 760; white female adults, 63; a ratio of more than twelve times less than the former; total mortality for five months, 1142. The Physico-Medical Society, on the contrary, reported the deaths in August, 304; in September, 178; in October, 91; in November, 91; in December, 74. From these and various other data, Dr. Dowler estimated the deaths from yellow fever, this year, at 800.

Governor J. Villeré, January 6, 1818, in his annual message, says: "That during the course of the last summer, the yellow fever had extended its ravages over the city, chiefly falling on newcomers, but many of our citizens were its victims." He thinks that the disease was imported, and regards quarantine laws favorably.

The yellow fever reappeared in New Orleans in 1818, and according to the estimate of some authors, the mortality amounted to 1151. Dr. Bennet Dowler gives the following statistics for 1818: Deaths, white male adults, 324; of female adults, 81; white children, 87; black male adults, 219; black female adults, 162; black children, 277. The mortality augmented in each month until September, in which 166 died. Total whites, 492; total blacks, 658; grand total, 1151. Dr. Barton does not include 1818 amongst the epidemic years, and the statistics given by Dr. Dowler evidently relate to all diseases.

An act approved March 6, 1819, repeals the act establishing a Board of Health in New Orleans, the health officer and all laws for the prevention of the introduction of pestilential, malignant and infectious diseases; directs the sale of the lazaretto and all its property; investing the Governor with authority to establish quarantine by proclamation at his sole discretion.

As we have seen, yellow fever prevailed as a destructive epidemic in 1819. The city proper had whites 13,604; blacks 13,592. The city and suburbs contained 45,958 souls. Mortality by months, beginning with January, 70; February, 102; March, 97; April, 78; May, 120; June, 130; July, 130. August, 292; September, 594; October, 513; November, 134; December, 109; total 2,369. It will be observed that the total mortality for August, September and October was 1,199, during the prevalence of the yellow fever, or over one-half of the entire mortality for the twelve months. These figures taken from the reports of the medical society and cemeteries apply probably only to the city proper.

Mr. Nuttal, the naturalist, in his travels, estimates the victims to yellow fever for this year in the city at from five to six thousand, an aggregate greatly exceeding probability.

In the official report of the United States Surgeon-General, it is said: "At New Orleans it was estimated that upwards of 3,000 died of yellow fever; and it was not until after the first of December that it was deemed prudent to return either to this city or Natchez. The interior of the country, in the Southern States, seemed to suffer in a corresponding ratio. In the West Indies the fever exhibited a still greater mortality."

The grand total mortality, according to the report of the Medical Society (supposed to include only the incorporated limits) is but 1337; the males being 1142, the females 195; blacks, male adults, 182; female, 168. Deaths of blacks distributed almost equally

among the months of the year, and little if any increased during the three epidemic months, while the deaths of white adults increased from 64 in July to 485 in September. Six white men died for one white woman.

According to Dr. Bennet Dowler, the first two cases of yellow fever in 1819 occurred May 7 and 12, the last death December 9. And as we have previously shown, the Committee of the Medical Society, after minute inquiry, failed to trace the disease to other than local causes.

Dr. Carpenter, on the other hand, in his special pleading for importation and contagion, says.

"In June, several vessels, with crews sickly with yellow fever, entered from Havana, and about the first of July cases began to appear among the shipping in the harbor. The Governor now proclaimed quarantine, by a power vested in his hands, by the act repealing the quarantine law. The disease, however, had already made some progress, and the thing was given up, and the vessels continued to come in, and some from Martinique, which were known to have lost some of their men on the voyage, and even on their way up the river, with the worst type of the 'vomito prieto,' and not a voice was heard to prevent their mooring on the levee. The disease became epidemic before the middle of August, and assumed a character of the highest malignity; medicine lost its effects; the skill of the physician was baffled, and multitudes were carried to the grave."—New Orleans Gazette, January 7, 1820, Sketches from the History of Yellow Fever, p. 18.

It was held by some that the disease had originated in the city, before its introduction in the way mentioned by Dr. Carpenter.

On the other hand, Dr. Dupuy de Chamberry, in his historical sketch of yellow fever, as it appeared in this city in 1819, says: I formerly believed the yellow fever to be contagious, but since I have been in the midst of it, my numerous practical observations have never been able to furnish me with one proof of this much dreaded attribute. Indeed, the result has been quite the reverse; and I am now convinced that the disease is permanently fixed to the spot, and within the limits of the place which has created it. No one case occurred beyond the limits of the city, during its prevalence in the years 1817 and 1819, that could be traced to our innumerable patients, although daily intercourse was kept up with the people of the neighboring estates and plantations. A great number of our inhabitants who carried the seed of the disorder abroad, seeking refuge from the danger at a distance, suffered an attack of the fever and died, but in no instance was it communicated to their friends. Fifty times have I had my hands besmeared with the putrid blood, black vomit, or fœtid slimy matter or perspiration. Fifty times have I been immersed in the effluvia issuing from a dead or living subject, and never been infected by the disease. From extensive observations I infer that the yellow fever of this place is a disease, *sui generis*, the product of local causes, and neither contagious nor exportable. Flight from the infected spot is the only preservation, and a distance of three miles appears to be quite sufficient to inspire the fullest confidence."

New Orleans was again visited by an epidemic of yellow fever in 1820. Deaths from yellow fever in the hospitals, 82. First admission, July 21; the last, December 21. The deaths for August from all causes were 289, September 402, October 177; total 868. During the same months, in 1817, the mortality was 965, and in 1819, 1199. Dr. Carpenter states that "about the twentieth of July, it became known that several cases of yellow fever had appeared among the shipping, and some at boarding houses. When the Mayor desired Dr. Davidson to examine all the vessels which had lately entered the port of New Orleans from the West Indies, where the yellow fever was then prevailing, who made diligent inquiries into, and investigated the grounds for the rumors which had prevailed in the city for some days past, that malignant fever had made its appearance, respectfully reports that:

"The schooner Gold Huntress, Martin master, from Havana, entered on the seventeenth of June, having lost two men on the passage with yellow fever; also, that the brig Charles Fawcett, Lamon master, from Matanzas, arrived on the tenth of July, having lost two men on her passage, and having others sick with yellow fever."—Letter of Dr. G. C. Forsyth, extract from New Orleans Gazette, November 15, 1820. Sketches from the History of Yellow Fever, p. 19.

Governer Villeré declared "that the scourge of war is preferable to yellow fever; that the city had been twice ravaged in three years," (1817, 1819), and that it is contagious." He urged the Legislature to pass quarantine laws, in which he had the greatest confidence as a preventive.

Governor Villeré, a firm advocate for contagion and quarantine, in his message of November 22, 1820, in relation to the existing epidemic of yellow fever, said:

"All the medical faculty appear definitely to have adopted the opinion that the yellow fever, which during the last year has plunged us once more into mourning and desolation, is not contagious" But he argued: "During the months of August, September and October there has been almost constantly in the prison of this city a great number of prisoners, and not a single one among them has been affected with the disorder. If the

yellow fever were natural to our climate, how has it happened that, among such a number of persons, heaped together in so small a space as the prison in this city, not a single one should have been attacked?"

Dr. Chabert, a physician of New Orleans, opposed the Governor's argument as to the prison, and maintained that the Creoles never take the yellow fever, though they do not shut themselves up to avoid it.

Governor Villeré reviews the report of the Medical Society for the current year, dissents from its deductions, which he regards as those of all the faculty, and denies what he calls "The constitutionality of the yellow fever."—Tableau of the Yellow Fever of 1853, etc., by Bennet Dowler, M. D., p. 17.

On the eighteenth of December, 1820, Governor Robertson, in his inaugural message, urged the Legislature to establish quarantine against yellow fever.

The quarantine laws passed by the Legislature in February, 1821, creating a Board of Health, with plenary powers, legislative, judicial, executive, pecuniary and sanitary, modeled after codes the most rigid, and enforced by the heaviest penalties, were carried into effect in March of the same year.

The quarantine ground, established at the English Turn, including incidental expenses, cost over $22,000.

The Board of Health commenced its duties on the sixth of March, and instituted measures for cleansing the city, improving its salubrity, and providing against the introduction of infectious diseases. The quarantine was under the direction of the Board of Health, and vessels arriving in port were compelled to contribute to its support. The board held its meetings every Tuesday afternoon at the Customhouse, until the first of June, and from that time until the first of November every day, excepting Sundays. The Mayor, Joseph Roffignac, was president ex-officio, of the board, composed of twelve members, who received no pecuniary compensation for their services.

The nature of the ordinance of the Board of Health may be gathered from the following extracts from the Code of Public Health:

"All keepers of inns, taverns, boarding-houses or other places, where persons are lodged for hire shall, once in every week, furnish the Mayor of the city, at his office, a list of the persons lodging or boarding at their houses respectively, according to the printed forms which the Mayor shall furnish at the expense of the corporation, which shall contain the names, apparent age, occupation, place of permanent residence, and nativity of such boarders or lodgers, and the time they have respectively lodged or boarded in such house; and every person offending against this article, shall forfeit one hundred dollars; or if knowingly furnishing a false return or list, shall forfeit a sum of five hundred dollars.

"If any seafaring man or sojourner shall, at any such house as is described in the foregoing article, fall sick at any time between the first day of May and the first day of November in any year, the master of such house shall, within twelve hours, report the name of such sick person to the Board of Health, and describe the place at which he lies sick, unless such person is attended by a physician duly admitted to practice, and for every neglect to make such report every keeper of such house shall forfeit $20.

"The sexton or keeper of every cemetery in the City of New Orleans, shall, every day during the months of May, June, July, August, September and October, and every week during the rest of the year, make a return to the Board of Health, of the persons buried in such cemeteries; and for every such neglect such sexton or keeper shall forfeit $10.

"Every person practising physic in the City of New Orleans who shall have a patient sick of the yeliow fever, or bilious malignant or pestilential fever, between the first of May and the first of November, in every year, shall within twenty-four hours make a report in writing to the Board of Health, at their office, and for neglecting to do so, he shall forfeit for every offense $300.

The year 1821 proved salubrious—a result attributed to the strict quarantine. From the following table it will be seen that the deaths were only slightly augmented during the months of July, August and September:

ANNUAL REPORT OF INTERMENTS IN THE CITY OF NEW ORLEANS, COMMENCING ON FIRST DAY OF JANUARY AND ENDING ON THE THIRTY-FIRST DAY OF DECEMBER, 1821, AS MADE TO THE MAYORALTY AND BOARD OF HEALTH.

1821.		January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
Whites.	Men	24	18	24	24	24	37	54	60	75	74	49	39	505
	Women	3	4	3	5	6	4	8	7	0	10	10	5	65
	Children	2	7	4	2	8	10	19	10	14	89	15	5	105
Colored.	Men	13	12	9	6	16	10	18	20	17	12	14	10	157
	Women	15	12	12	13	14	7	13	18	10	7	16	15	152
	Children	14	17	15	13	15	23	16	18	6	15	14	15	181
Total		71	70	67	65	85	91	128	133	122	126	118	89	1165

Governor Robertson, in January, 1822, congratulated the Legislature upon the good fortune of New Orleans as being "the healthiest city" in the Union; but at the close of August the yellow fever appeared; it augmented throughout September, but it did not reach its culminating point until October; the month of greatest mortality having amounted to 665, exceeding that of the present month by 33. The following was the mortality for three months. August, 165; September, 532; October, 665. Total, 1,362.

Total deaths from yellow fever in 1822, 808, or one in 53.28 of the population. The highest number of deaths any one day of yellow fever was 60; and of all causes, 80. During 1833 the largest mortality any one day of yellow fever was 53; 1841, highest number from yellow fever 43, and the greatest mortality 60.*

Of the ten epidemics of yellow fever with which New Orleans has been visited since the cession of the American government, in 1803, up to the year 1842, the average loss per year has been estimated as not exceeding 800, and during that period the most fatal epidemic was that of 1822, when the deaths numbered 808, or one in 53.28 of the entire population. The total mortality from yellow fever in 1841 was 1,641, distributed thus by cemeteries: Catholic Cemetery, 42; Cypress Grove Cemetery, 77; Protestant Cemetery, 63; St. Patrick's Cemetery, 78; Lafayette Cemetery, 241; Jewish Cemetery (in Lafayette), 16; Potter's Field, 1,124. Total, 1,641.

Natives of the United States, 288; natives of foreign countries, 1,055; natives of countries unknown, 298. Total, 1,641.

The population of New Orleans, including the parish of Orleans, in 1820, was 41,350, and in 1840, 102,191. In 1841 the population of New Orleans probably exceeded 103,000; ratio of deaths from yellow fever one in 62.7 of population.

The value of the labors of the Board of Health in diminishing the rate of mortality and the prevention of yellow fever, by the so-called efficient and rigid quarantine, will be seen from the comparative mortality, from all diseases, during the three months of August, September and October of the years specified:

Months.	Years.							
	1817.	1819.	1820.	1822.	1833.	1837.	1839.	1841.
August	489	292	289	165	410	483	619	562
September	304	594	402	532	783	1188	648	1115
October	172	513	177	665	565	568	297	659
Totals	965	1390	868	1362	2758	2239	1554	2231
Ratio to entire population	1 in. 37 02	1 in. 33.60	1 in. 37.63	1 in. 31.60	1 in. 27.72	1 in. 38.76	1 in. 61.73	1 in. 48.15

The message of Governor Robertson, after the epidemic of 1822,* breathed sorrow and despair, and he could no longer exult upon the good fortune of New Orleans, as being "the healthiest city in the Union," and his bitter experience might well be heeded,

* It is worthy of note, as bearing upon the assertion that cold was capable of eradicating the cause of yellow fever, that the winter of 1821 and 1822, preceding the great epidemic of yellow fever of 1822, was one of the most severe ever experienced in Louisiana, as the following particulars recorded by a competent observer will show: "December 22, 1821, very cold. with hail; Sunday, December 23, ice one inch thick, and Fahrenheit's thermometer stood 20° above zero—*on this day*, cold as it was found in this climate, the volunteers had a parade and were reviewed by the Governor; December 24, cold; December 25, snow one inch in depth. In summer the average heat is 83°, the highest 94°, all in the shade. Mr. Peter Maspero, a maker of thermometers, and an old and respectable citizen of New Orleans, informed the observer in 1821, "that for seventeen years he had been in the habit of observing the thermometer, and never knew it to rise higher than 94°, which occurred last year; and two years previously to 93°; the instrument stood in the shade in his store." It was noted at an early day that New Orleans enjoyed the advantage of pleasant and refreshing breezes throughout the warm season.

The extremely mild temperature of the summer climate of Louisiana, and the much greater severity of the cold of winter than could be expected below latitude 33° North, was a phenomenon which more than sixty years ago engaged the attention of a few thoughtful observers, without at that time receiving a satisfactory solution. As vegetable productions are the only decisive marks of climate, they offered to those earlier observers ample proof of how much more temperate the climate of Louisiana was than that of similar latitudes on the Eastern Continent. The orange tree flourishes in Europe above 38° N. Latitude, the sugar cane about the same height; neither of them have been cultivated with success in America as high as 32° N. The cotton and other tender plants have frequently been killed in Louisiana by frosts late in April or again in the latter days of September. In Louisiana the intervals between frosts may be called the months of May, June, July, August and September, though instances have occurred in Louisiana of frosts in September. The heat in summer seldom amounts to 90° F., and the medium temperature of well water is 52° F.—*Paxton's Directory of New Orleans, pp.* 25-26.

List of Governors of Louisiana from the first settlement to the administration of Governor Robertson:

French—Sauvolle, 1699; Bienville, 1700; Demonis (died on his passage), 1708; Tremonthe Cadiliac, 1713; L'Epinay, 1717; Bienville, 1718; Périer, 1826; Bienville, 1733; Vandreuil, 1744; Kerlerec, 1753; D'Abadie, 1763; Aubrey, 1765

Spanish—Ulloa, 1766; O'Reilly, 1769; Unzegua, 1770; Galvez, 1777; Miro, 1783; Carondelet, 1700; Gayoso, 1796; Salcedo, 1800.

American—W. O. C. Claiborne, 1804; James Villeré, 1816; J. B. Robertson, 1820.

when so-called sanitary reformers, attribute the absence of yellow fever from New Orleans, wholly to their pretentious, but superficial, efforts.

"It is," says Governor Robertson, "an idle waste of time for me to inquire into the causes, origin and nature of this dreadful malady." * * * * "The State resorted to quarantine, under the expectation that it would add to the chances of escape from this dreadful visitation. If this hope be fallacious, if no good effect has been produced, if even a procrastination of its appearance has not resulted from the measure, then should it be abandoned, and our commerce relieved from the expense and inconvenience which it occasions."

In 1823, the Committee of the House of Representatives on Quarantine Laws reported that "during the last year (1822) notwithstanding the *strictest compliance with these laws*, our expectations were frustrated at the very moment when we thought we could indulge the hope of the most complete success. The season was far advanced, and in the month of September this metropolis enjoyed the most perfect health, when the yellow fever made its appearance."

"Notwithstanding the signal and lamentable failure of quarantine in 1822, the committee of the House of Representatives, of which F. Grima, Esq., was chairman, recommended its *continuance in the most rigid form, because it had not been tried sufficiently long, and because other States had similar regulations.*"

The Board of Health upon this occasion, as well as upon many others, were not slow in finding an unfortunate vessel and some miserable individuals, to whom they attached the odium of having introduced the disease. The Board of Health of 1822 set a worthy example to succeeding boards, in expressing faith in the efficacy of quarantine to exclude yellow fever from New Orleans. Thus they held the following language:

"The Board of Health believe it their duty to do away with the impression made by interested persons, to induce a belief in the inutility of the powers which you have so wisely conferred on the Board, for the establishment of quarantine, which these persons wish to see destroyed." * * *

"This opinion is diametrically opposed to that of the Board of Health, who believe that the yellow fever is contagious, and that the establishment of quarantines is necessary to prevent its introduction."

The citizens, however, were not convinced by the arguments of the contagionists, as to the value of their system to prevent yellow fever, and determined to petition the Legislature to abolish the quarantine laws.

On the twenty-third of January, 1823, a large public meeting took place, in which it was moved and carried, "*that the late epidemic had tested the total inefficiency of the quarantine laws and regulations;* we consider them not only useless, but in the highest degree oppressive and injurious to the commerce of this city; and that application ought to be made to the Legislature for the purpose of having them annulled." A memorial was addressed to the Legislature accordingly for that purpose. The Legislature, however, took no decisive action upon the matter. The quarantine continued in force. The health of the city continued good throughout 1823, only two cases of yellow fever having been recorded in the books of the Charity Hospital.

The Governor, in his message of January, 1824, congratulated the Legislature on the health of New Orleans, and proclaimed the city free from "*all contagious diseases,*" but on the fifteen of November of the same year, the Governor in his message says: New Orleans has been again subjected to the dreadful scourge," and suggests the expediency of closing the business season in midsummer, and recommends a general flight to the unacclimated.

Mayor J. Roffignac in his message dated September 11, 1824, gives the following exposition of the causes of yellow fever:

"The opinion of professional men on the primary cause of the insalubrity of New Orleans, tends only to confirm the idea which must occur to the mind of every attentive observer, on looking at the topographical situation of our city, to wit: that these causes are of two kinds; the one arising within and the other without the city itself, and that both ought to be counteracted.

"The internal causes are: 1. The filth daily created in a populous city. 2. The low grounds and pools where stagnant water lies, the wooden gutters, constantly wet and fermenting under the rays of a torrid sun. 3. The want of privies in most of the populous districts, which renders it necessary to recur to the disgusting and dangerous use of tubs.

"The external causes are: 1. The marshes lying north and west of the city, uncovered but undrained, and deprived, by the cutting down of trees, of the shelter formerly afforded to them by the shade of a luxuriant vegetation, for which the very miasms that now spread death and desolation among us, were a source of life and vigor. 2. To the south and east, the Mississippi, which in its periodical retreat at the hottest season of the year, leaves on its banks a great portion of the filth which has been thrown into the current, but is brought back by eddies. 3. The winds, which at the moment we feel most secure, may, as was the case in 1822, convey to us the deadly effluvia of the dangerous spots, which they sweep in their course."

Mayor J. Roffignac does not allude to *contagion*, nor does he allude to the *quarantine*, which had afforded no protection, and proved a delusion against disease and a serious obstruction to commerce

The quarantine had been tried for three years, and yet two epidemics had occurred; the contagionist began to waver, and, the joint committee of both houses of the Legislature disagreeing on quarantine, were discharged from the consideration of the same on the last day of November, 1824.

Experience convinced the public that quarantine was not only useless, but absolutely injurious to a city so exclusively commercial; that a free untrammeled trade with freedom of ingress, egress and progress, was a social necessity involving the question of subsistance or starvation. On the nineteenth of February, 1835, the Legislature repealed the quarantine laws which it had enacted four years previously, and at the same time the quarantine grounds were directed to be sold. During the eight years which followed, yellow fever was never so destructive as in 1822, under a strict quarantine, when, according to some authorities, as the Reverend Timothy Smith, who visited New Orleans in 1823, 2000 died of that malady, although the records examined by Drs. Barton, Dowler and myself, show only 808, the whole mortality for the three months ending with October being 1362. The maximum mortality upon one day rose to 80, of yellow fever to 60. The ratio of mortality in the Charity Hospital was enormous, out of 337 admissions 239 deaths and only 98 cures took place.

An ordinance for the establishment of another Board of Health in New Orleans, was again passed by the General Council in June, 1841. The Board consisted of nine members—three aldermen, three physicians and three private citizens. It was invested with ample powers to adopt and enforce such sanitary regulations as were thought conducive to the health of the city. This Board performed its functions during the first year of its existence; but we have seen that a fearful epidemic of yellow fever desolated New Orleans in 1841, destroying 1641 of her inhabitants, the mortality for the months of August, September and October reaching 2231,

The second year there was a falling off, but a dissolution did not take place till 1843. In 1844, the Board of Health having ceased to officiate, the General Council invited the Medico-Chirurgical Society to take charge of the sanitary interests of New Orleans. This proposition was accepted, and a committee of nine members appointed with full powers to act as a Board of Health.

Acts were passed by the General Council fiteenth of August, 1846, twenty-third of June, 1847, and by the Legislature of Louisiana March 6, 1848, May 15, 1848, and June 13, 1855, relating to the Board of Health and quarantine. The present system of quarantine was established on June 13, 1855.

1833.—On the ninth of December, when the Legislature met, the State was just recovering from the terrors of the ravages produced during the preceding autumn by the yellow fever and cholera. Governor Derbigny informed them, that now "health prevailed throughout the whole of the State, and that the resources which her geographical position and inexhaustible fertility of her soil afforded her was so great that, after all these calamities, her situation was at present very prosperous."—History of Louisiana, American Domination, p. 655.

An ordinance for the establishment of another Board of Health in New Orleans was again passed by the General Council, in June, 1841. The board performed its functions during the first year of its existence: but an epidemic of yellow fever afflicted New Orleans in 1841, deseroying 1641 of her inhabitants. The second year there was a falling off in the interest of its members, but a dissolution of the board did not take place until 1843. In 1844, the Board of Health having ceased to officiate, the General Council invited the Medico-Chirurgical Society to take charge of the sanitary interests of New Orleans. The proposition was accepted, and a committee of nine members were appointed, with full powers to act as a Board of Health.

Acts were passed by the General Council, August 15, 1846, June 23, 1847, and by the Legislature of Louisiana, March 6, 1848, May 15, 1848, and June 13, 1855, relating to the Board of Health and quarantine.

MAYORALTY OF NEW ORLEANS.

GENERAL COUNCIL.

SITTING OF SATURDAY, August 15, 1846.

Be it ordained, etc., That the Branch Pilots for the Port of New Orleans and the officers of the customs for said port and District be requested to notify all masters of ships or vessels bound for this port having on board the small-pox or any contagious disease, that they are forbidden to come along aside of the levee in either of the municipalities until they have been visited by one or more members of the Board of Health and can produce a certificate of

MAIRIE DE LA NOUVELLE-ORLEANS.

CONSEIL GENERAL.

SEANCE DU 15 Août 1846.

Il est ordonne, etc., Que les Pilotes du Port de la Nouvelle Orléans, et les officers de douane du dit Port et District, soient requis de notifier à tous Capitaines de Navires ou Vaisseaux destinés pour ce Port, et ayant à bord la Petite-Vérole, ou toute autre maladie contagieuse, qu'il leur est défendu d'aborder la Levée dans les limites des trois municipalités, à moins qu'ils n'aient au préalable reçu la visite d'un ou plusieurs membres du Bureau de Santé, et puissent

convalescence from the said physician to the harbor-master to whom they may enter. The said ship or vessel shall come to anchor under Slaughter-House Point until they have received said visit from said physician under a penality of five hundred dollars, and that the Mayor be authorized to request the Collector of this port to notify the officers under his control to enforce the above ordinance, and that two hundred copies thereof be printed and delivered to the pilots and officers of the customs.

(Signed) W. H. WILDER, President.

Approved August 17, 1846.

A. D. CROSSMAN, Mayor.

A true copy.

A. MAZUREAU, Secretary.

produire de la part du dit membre un certificat de convalesence qu'ils présenteront au Capitaine du dit Port chargé de les placer. Les dits Navires ou Vaisseaux mettront à l'ancre à la Pointe de l'Abattoir, jusqu'à ce qu'ils aient recu la visite d'un des dits membres du Bureau de Santé, et ce sous piene d'une amende de cinq-cents piastres; Et de plus; Le Maire est et demeure autorisé à requérir du Collecteur de la Douane de vouloir bien notifier les officiers sous son controle d'avoir à veiller à l'exécution de la présente ordonnance, et que deux cents copies en soient immédiatement imprimées et distribuées aux Pilotes et aux dits officiers de douane.

(Signé) W. H. WILDER, Président.

Approuvé le 17 Août 1846.

A. D, CROSSMAN, Maire.

Pour copie conforme.

A. MAZUREAU, Secrétaire.

MAYORALTY OF NEW ORLEANS.

GENERAL COUNCIL.

SITTING of JUNE 23, 1847.

An ordinance relative to vessels arriving at this port from Sea.

ARTICLE 1. *Be it ordained by the General Council of the City of New Orleans,* That all owners, captains, masters or commanders of vessels arriving at this port from sea, be and are hereby forbidden, whenever there may be any infectious or contagious diseases on board of such vessel, to moor such vessel at any of the wharves of either of the municipalities of this city, and it shall be the duty of said captains, masters and commanders of such vessels to anchor in the middle of the river below Slaughter-House Point, and there remain at anchor untill such infectious or contagious disease shall have entirely disappeared from such vessel, and any master, captain or owner of any vessel, contravening, shall pay a fine of one hundred dollars.

ART. 2. *Be it further ordained,* That it shall be the duty of the Mayor, whenever he may receive information of the arrival of any vessel having any infections or contagious disease on board, to order such vessel to come to an anchor in the middle of the river, below Slaughterhouse Point, and in case of the master or commander of such vessel refusing or neglecting so to do, the Mayor is hereby authorized to cause such vessel to be immediately removed to and anchored at the place above designated, and the owner, master or commander of such vessel shall pay a fine of one hundred dollars for neglecting or refusing to remove such vessel as aforesaid. and shall also pay the expenses of such removal.

ART. 3. *Be it further ordained,* That any owner, master or commander of a vesael who shall land or permit to land, within the limits of the city of New Orleans, any person or persons affected with any infections or contagions disease, shall pay a fine of one hundred dollars for each and every person so affected they may land or permit to land.

ART. 4. *Be it further ordained,* That it shall be the duty of all owners, masters or commanders of vessels arriving from sea, and having any infectious or contagious disease on board, to come to an anchor as required by the first article of this ordinance, and immediately notify the Mayor of this city thereof; and the Mayor shall immediately notify the Board of Health of the arrival of such vessel, whose duty it shall be to proceed on board of such vessel and examine the persons affected, and report the result of their examination to the Mayor; and any owner, master or commander of a vessel refusing or neglecting to comply with the provisions of this article shall pay a fine of $100.

ART. 5. *Be it further ordained,* That whenever any vessel having any infectious or contagious disease on board, shall have been anchored as directed by this ordinance, it shall not BE LAWFUL for any person or persons to remove such vessel from her anchorage until the owner, master or commander of

MAIRIE DE LA NOUVELLE-ORLEANS.

CONSEIL GENERAL.

SEANCE DU 23 JUIN 1847.

Ordonnance Relative aux Navires arrivant de la Mer en ce Port.

ARTICLE 1. *Il est ordonne par le Counseil General de la villa de Nouvelle-Orleans,* Qu'il sera défendu à propriétaires, capitaines, maîtres ou commandants de navires, arrivant de la mer dans ce port ayant à bord des dits navires des maladies contagieuses ou pestilentielles, de faire aborder leurs navires à chacun des wharfs d'aucune des municipalites de cette ville; et il sera du devoir des dits capitaines, maitres ou commandants desdits navires, de les mettre à l'ancre au milieu du fleuve, au-dessous de la pointe de l'abattoir, et d'y mettre à l'ancre jusqu'à ce que les maladies contagieuses ou pestilentielles aient complètement disparu des dits navires, sous peine d'une amende de cent paistres pour chaque contravention.

ART. 2. *Il est de plus ordonne,* Qu'il sera du devoir du Maire, toutes les fois qu'il sera informé de l'arrivée d'aucun navire ayant a bord des maladies coutagieuses ou pestilentielles, d'ordonner au dit navire de jeter l'ancre au millieu du fleuve au-dessous de la pointe de l'abattoir, et au cas ou le capitaine ou commandant du dit navire refuserait ou negligerait de se conformer à cet ordre, le Maire est autorisé à faire conduire ledit navire et de lui faire jeter l'ancre à l'endroit ci-dessus designé; et le propriétaire, capitaine ou commandant dudit navire paiera une amende de cent piastres pour avoir negligé ou refusé de conduire son navire comme il est dit ci-dessus; et de plus, il paiera les frais de deplacement.

ART. 3. *Il est de plus ordonne,* Que tout propriétaire, capitaine ou commandant d'un navire qui debarquera ou laissera debarquer dans les limites de la ville de la Nouvelle-Orléans. aucune personne affectée d'aucune maladie contagieuse on pestilentielle, paiera une amende de cent piastres par chaque personne ainsi affectée, qu'il aura débarquée on laisser debarquer.

ART. 4. *Il est de plus ordonne,* Qu'il sera du devoir de tous propriétaires, capitaines, maitres ou commandants de navires arrivant de la mer et ayant à bord aucune maladie contagieuse ou pestilentielle, de jeter l'ancre ainsi qu'il est préscrie dans le premier article de la persent ordonnance, et de notifier immediatement le Maire de cette ville de ce fait; et le Maire notifiera immédiatement le Bureau de Santé de l'arrivée d'aucun de ces navires; et il sera du devoir des dits membres du dit Bureau de se rendre à bord de ce navire et d'examiner les personnes affectées, et de faire au Maire un rapport du resultat de leur examen. Et tout proprietaire, capitaine ou commandant de navire refusant ou negligeant de se conformer aux dispositions du present article, paiera une amende de cent piastres.

ART. 5. *Il est de plus ordonne,* Que toutes les fois qu'un navire ayant à bord aucune maladie contagieuse ou pestilentielle. aura jeté l'anchre comme il est prescrit par la présente ordonnance, il ne sera permis à aucune personne de déplacer ledit navire, jusqu'à ce que le propriétaire, capitaine ou com-

such vessel shall have first PROCURED to that effect a written permit from the Mayor of this city; and it shall be the duty of the Mayor, prior to granting such permit, to cause an examination of such vessel to be made by the Board of Health, and upon the Board of Health certifying in writing that all infectious or contagious disease has disappeared from such vessel, he shall grant permission to such vessel to remove from the anchorage and moor at any of the wharves; and each and every person or persons removing or attempting to remove any vessel or vessels from the anchorage as aforesaid, shall pay a fine of one hundred dollars.

ART. 6. *Be it further ordained*, That the fines and penalties imposed by this ordinance shall be recovered before any competent tribunal, for the benefit of the Board of Health of the city of New Orleans.

ART. 7. *Be it further ordained*, That the printer of this Council shall print one thousand copies of this ordinance and deliver the same to the Mayor, and the Mayor is requested to forward two hundred copies of the same to the branch pilots at the Balize and the Passes, with the request that they distribute the same to the captains and masters of vessels coming from sea.

ART. 8. *Be it further ordained*, That all ordinances contrary to the provisions of this ordinance, be and the same are hereby repealed.

(Signed) D. STICKNEY, President.
Approved June 18, 1837.
A. D. CROSMAN, Mayor.
A true copy.
A. MAZUREAU, Secretary.

mandant du dit navire ait obtenu à cet effet, du Maire de cette ville, une permission écrite. Et il sera du devoir du Maire, avant de déliverer la susdite permission, de faire examiner le dit navire par le Bureau de Santé, et lorsque le Bureau certifiera par ecrit que toute maladie contagieuse ou pestilentielle a disparu dudit navire, alors il accordera la permission de déplacer ledit navire et de le faire aborder à l'un des wharfs; et toute personne qui déplacera ou essaiera de déplacer aucun navire ainsi qu'il est dit ci-dessus, paiera une amende de cent piastres.

ART. 6. *Il est de plus ordonne*, Que les amendes imposées par cette ordonnance seront recouvrables pardevant tout tribunal compétent au profit du Bureau de Santé.

ART. 7. *Il est de plus ordonne*, Que l'imprimeur de ce Conseil imprimera mille exemplaires de cette ordonnance et les delivrera au Maire, qui est requis d'en transmettre deux cents aux pilotes de la Balize et des Passes, avec prère de les distribuer aux capitaines ou commandants de navires arrivant de la mer.

ART. 8. *Il est plus ordonne*, Que toutes ordonnances contraires aux dispositions de la présente soient et demeurent rappelées.

(Signé) D. STICKNEY, President.
Approuvé le 28 juin 1847.
A. D. CROSSMAN, Maire.
Pour copie conforme.
A. MAZUREAU Secrétaire.

CUSTOMHOUSE, NEW ORLEANS,
COLLECTOR'S OFFICE, November 2, 1849.

Inspectors of the customs, acting as boarding officers, will deliver to the captain or officer in command of every vessel entering the river from, which he may board, on board of which there may be any infectious or contagious disease, a copy of the above ordinances, and will promptly report to me all such cases, making a note on the manifest of the vessel thereof, noting the number of persons sick with such diseases, and the number that have died during the voyage, as may be reported to him by the captain or officer in command, or as may be ascertained from other reliable sources.

SAMUEL J. PETERS, Collector.

ESTABLISHMENT OF THE PRESENT SYSTEM OF QUARANTINE CHARGES ON JUNE 13, 1855.

The memorial of the ship owners and ship agents of New Orleans, now before the General Assembly, would lead the uninformed to believe that the present bill to regulate the quarantine fees at the Mississippi Station is something new and wholly different from the organic act of the Legislature which had been in force during the past twenty-seven years. But this is not the case.

1853-54.—Louisiana had been in 1853 deprived of thousands of her citizens in the most frightful epidemic she had ever witnessed. It had not confined its ravages to New Orleans, but had spread to distant parishes in the country.

In 1855, on the fifteenth of February, the Legislature met in Baton Rouge, a few months after the yellow fever had for a second time, in 1854, desolated the State, "the general prevalence of that disease," said Governor Hebert, in his annual message, "during two successive years, in the most malignant form, seems to authorize the conclusion that, supposing it to have been at any time of foreign origin, it has now annually a fixed habitation within our borders."—History of Louisiana, American Domination, Gayarré, p. 677.

AN ACT TO ESTABLISH QUARANTINE FOR THE PROTECTION OF THE STATE.

SECTION 2. *Be it enacted by the Senate and House of Representatives of the State of Louisiana, in General Assembly convened*, That there shall be a quarantine establishod below the City of New Orleans, on the River Mississippi, at a distance of not less than seventy miles, by the river, from the city; that the Board of Health to be elected under this act is hereby authorized to locate the quarantine ground, to receive the transfer of the necessary land in the name of the State, and to draw upon the Treasurer of the State for the necessary amount, out of the fund unpropriated under this act; *provided*, the consent of the Governor of the State is given to said purchase.

SEC. 2. *Be it further enacted, etc.*, That there shall be a Board of Health composed of nine competent citizens of the State, to be elected as follows: Three by the Council of New Orleans, on joint ballot, and six to be appointed by the Governor, by and with the advice and consent of the Senate; the said members shall be selected in reference to their known zeal in favor of a quarantine system. All the members of the Board shall be commissioned by the Governor for the term of one year, after having filed and subscribed in the

office of the Secretary of State, an oath well and truly to enforce and comply with the provisions of an act entitled "An act to establish quarantine for the protection of the State," and in case of neglecting or failing to comply with the above required oath within ten days after their appointment or election, their office shall be considered vacant.

SEC. 3. *Be it further enacted, etc.*, That the Board of Health shall meet once a month from the first of November to the first of June, and once a week from the first of June to the first of November, and as often as they may deem necessary.

SEC. 4. *Be it further enacted, etc.*, That the Board of Health shall meet and organize on the third Monday in April, and elect out of their own number a President, whose duty it shall be to reside in New Orleans and superintend the different quarantine stations of the State, and it shall be his duty to visit them as often as the Board of Health shall deem necessary. He shall have the power to issue, during the adjournment, to constables or the sheriff, all orders and warrants provided by the provisions of this act, and shall report to the Attorney General all violations of the same. It shall be his duty to lay before the Board at each meeting the business to be transacted, and a book in which he shall enter copies of all letters written by him, orders and warrants issued, and a detail of all his acts. He shall present at each meeting all communications forwarded to him, and a report of the resident physicians and treasurers, and perform such other duties as shall be assigned to him by the Board of Health. He shall only be removed by impeachment, and shall receive a salary of $2000 a year.

SEC. 5. *Be it further enacted, etc.*, That four members of said Board shall form a quorum; *provided*, however, that no contract for building shall be entered into without the consent of a majority of the Board.

SEC. 6. *Be it further enacted, etc*, That the Board of Health shall authorize the Resident Physician to employ, in case of need, an assistant physician at the Quarantine ground on the Mississippi River, who shall act as his deputy, and whose salary shall not be more than two thousand dollars a year. The Board of Health shall have power to employ nurses and assistants to attend the sick, and such other persons as may be necessary to carry out proper quarantine regulations, and to fix their compensation; to fix the number of days of quarantine for vessels liable to it under sections ninth and thirteenth of this act, not to be less than ten days; to determine how said quarantine shall be performed, and to make out all legal regulations not provided by this act nor contrary to the same, and necessary to carry out a proper system of quarantine, and to enforce the same by a fine not exceeding five hundred dollars; to make rules and regulations for preserving good order and police within the limits of the quarantine ground, and to impose penalties for the breach thereof; to contract for the necessary buildings at the quarantine grounds; to appoint a Secretary who shall act as Treasurer, whose salary shall be fifteen hundred a year, and who shall furnish security in a sum of ten thousand dollars. It shall be his duty to keep a minute of the proceedings of the Board, and all vouchers and expenditures made by authority of said Board. The Board of Health shall have power to remove, or cause to be removed, any substance which they may deem detrimental to the health of the city of New Orleans, and the commissioners of the streets shall execute their orders, whenever not in conflict with the ordinances of the city, or the laws of the State; to pass and enforce sanitary ordinances for the city, provided the same are approved by the Council and published as city ordinances; to define the duties of officers employed by them, and impose additional duties to officers appointed under this act; to issue warrants to any constable, police officer or sheriff in the State; to apprehend and remove such person or persons as cannot be otherwise subjected to the provisions of this act, or who shall have violated the same, and whenever it shall be necessary so to do, to issue their warrant to the sheriff of the city or parish where any vessel may be, having violated the provisions of this act, commanding him to remove said vessel at the quarantine ground, and arrest the officers thereof, all which warrants shall be executed by the officer to whom the same shall be directed, who shall possess the like powers in the execution thereof, and be entitled to the same compensation as if the same had been duly issued out of any court of the State. The Governor shall appoint a police officer to be designated as Marshal, who shall be under the control of said Board of Health, and reside at the Quarantine Station, on the Mississippi River, whose duties and powers shall correspond to those of a sheriff or constable, so far as regards the execution of warrants and arrests of persons for violation of said quarantine regulations, and for said services shall receive the annual allowance of one thousand dollars.

SEC. 7. *Be it further enacted, etc.*, That there shall be a Quarantine Station at some point on the Rigolets, and another on the Atchafalaya River, two miles below "Pilot Station," at the mouth of the Wax Bayou; the Board of Health is hereby empowered, and it shall be their duty to locate them agreeably to the provisions of this section; but the provisions of this act shall only apply to the station at the Rigolets from the day of the issuing of the proclamation of the Governor, as provided by section thirteenth, declaring any port on the lake-shore or on the Gulf of Mexico to be an infected place, and shall remain in full force until suspended by a vote of two-thirds of the members of the Board of Health. The provisions of this act shall apply to, and be enforced at the Quarantine Station on the Atchafalaya River, from the first of May to the first of November of each year; and also when the Governor shall have issued his proclamation, as provided by the thirteenth section, and in such a case shall remain in full force until suspended by a resolution voted for by two-thirds of the members of the Board of Health. There shall be no permanent building erected at Pilot's Station on the Atchafalaya River, but the Board of Health shall use as an hospital for the reception of the sick, hulls and cabins of steamboats. The Board of Health shall employ an officer, whose duty it shall be, and who is hereby empowered, to require from captains of vessels, steamboats or crafts having passed the station at the Rigolets, or on the Atchafalaya River, the permit of the Resident Pdysician The Board of Health shall appoint a Resident Physician for each of the two Quarantine Stations on the Rigolets, and on the Atchafalaya, and such other persons as may be necessary; *provided*, their salary shall run only during such time as they shall thus be employed, and shall in no case exceed for the time they shall have been thus employed, the salary of the same officers at the Quarantine Station for the same space of time, on the Mississippi.

SEC. 8. *Be it further enacted, etc.*, That the Resident Physician of the quarantine ground shall receive a salary of five thousand dollars ($5000), and shall be appointed by the Governor of the State, by and with the advice and consent of the Senate, and removable at pleasure. It shall be his duty to visit every vessel coming from any port and entering the mouth of the Mississippi River. He shall require the captain of every vessel thus inspected to pay the following fees: For every ship, bark or sea-going steamer, the sum of twenty dollars, and fifteen for all other vessels; *provided*, nothing contained in this section shall apply to any vessel or craft from New Orleans to sea and returning without having touched at any port, or at the quarantine, towboats excepted. To all vessels not coming from any infected district, as provided by section thirteen, or not having on board patients affected with cholera, yellow fever, pestilential, contagious or infectious diseases, or not in a foul condition, a certificate to that effect shall be given. It shall be his duty to return to the Secretary of the Board of Health, a weekly list of vessels by him inspected, together with the amount collected for such inspections, which shall form a fund for the support of the quarantine.

SEC. 9. *Be it further enacted etc.*, That the Resident Physician shall have the power, and it shall be his duty, to detain at the quarantine ground, with their cargoes, crew and passengers, all vessels coming from an infected district, as provided by section thirteen, or in a foul condition, or having on board persons affected with cholera, yellow fever, pestilential, contagious or infectious diseases, during such time as he

may deem necessary—not less than ten days—to compel the captain to land the sick at the Quarantine ground, to fumigate and cleanse such vessels, and to submit to such rules and regulations as will be hereafter provided by the Board of Health, and that all costs incurred for vessels found in a foul condition, including the sum of five dollars for the support of each and every sick person landed at the Quarantine Station, shall be borne by the captain and owners, and shall be paid to the Resident Physician before a certificate, as provided by section eighth, shall be given.

SEC. 10. *Be it further enacted, etc.*, That the Resident Physician shall have such other powers as may be delegated to him by the Board of Health, not contrary to the provisions of this act and necessary to carry them into effect. It shall be his duty to remain at the Quarantine ground, attend the sick, and perform all such other duties as may be required of him by the Board of Health.

SEC. 11. *Be it further enacted, etc.*, That the Board of Health shall appoint a treasurer for the Quarantine ground on the Mississippi River, with a salary of fifteen hundred dollars ($1500) per annum, and who shall furnish security in the sum of ten thousand dollars ($10,000). It shall be his duty to attend to the finances, collect all sums of money due by vessels in a foul condition, account and pay over to the Secretary of the Board of Health all monthly balances in his hands, and shall receive and deliver the freight of all vessels ordered to be unloaded, and perform such other duties as the Board of Health shall require of him.

SEC. 12. *Be it further enacted, etc.*, That the Secretary of the Board of Health shall deposit in bank all moneys paid over to him and shall keep a correct account of the same. He shall moreover present at each meeting of the Board a statement of its affairs, and cause his accounts to be approved by the Auditor of Public Accounts every three months, and shall act as commissary for the purchase of provisions and supplies, and shall deposit in bank all moneys paid over to him, and perform such other duties as the Board of Health may assign to him.

SEC. 13. *Be it further enacted, etc.*, That the Governor of the State shall issue his proclamation, upon the advice of the Board of Health, declaring any place where there shall be reason to believe a pestilential, contagious or infectious disease exists, to be an infected place, stating the number of days of quarantine to be performed. It shall be the duty of the Resident Physician to give timely notice to the Board of Health of the necessity of such proclamation. After such proclamation shall have been issued, all vessels arriving in the port of New Orleans, or at the Rigolets, or the Atchafalaya Station, from such infected place, shall be subject to quarantine, and shall, together with their officers, crews, passengers and cargoes, be subject to all regulations passed by the Board of Health, provided by this act. Every master of a vessel subject to a quarantine or a visitation, arriving in the port of New Orleans, who shall refuse or neglect either—first, to proceed with and anchor his vessel at the place designated for quarantine at the time of his arrival; second, to submit his vessel, cargo and passengers to the examination of the physician, and to furnish all necessary information to enable that officer to determine what quarantine shall be fixed for his vessel; third, to remain with his vessel at the quarantine ground during the period assigned for her quarantine, and while there to comply with the directions and regulations prescribed by this act, or by the Board of Health, or with such directions prescribed for his vessel, crew and cargo and passengers, by the Resident Physician, shall be guilty of a misdemeanor, and be punished by a fine not exceeding two thousand dollars ($2000), or by imprisonment not exceeding twelve months, or both, at the discretion of the court.

SEC. 14. *Be it further enacted, etc.*, That every person who shall violate the provisions of this act by refusing or neglecting to obey or comply with any order, prohibition or regulation made by the Board of Health, in the exercise of the powers herein conferred, shall be guilty of a misdemeanor, punishable by fine and imprisonment, at the discretion of the court by which the offender shall be tried. It shall be the duty of the captain of every towboat towing a vessel subject to quarantine or visitation, to leave such vessel at the quarantine ground and to inform the captain of the penalties attending a non-compliance with the provisions of this act.

SEC. 15. *Be it further enacted, etc.*, That the captain of any sea-going vessel, steamboat or towboat, violating the provisions of this act, or the rules and regulations established or to be established by the Board of Health, shall be considered guilty of a misdemeanor, and sentenced to pay a fine not exceeding five hundred dollars and imprisonment not exceeding one year.

SEC. 16. *Be it further enacted, etc.*, That the Resident Physician shall report to the Attorney General all violations of this act; and it shall be his duty to prosecute all person or persons thus offending; to collect the fines and remit the amount thereof to the Secretary of the Board of Health, whose duty it shall be to keep a separate book for fines collected, to be approved of every three months by the Attorney General, who shall receive such compensation as the board may fix for his services.

SEC. 17. *Be it further enacted, etc.*, That it shall be the duty ot the Harbor Masters in their respective districts to demand of the captain of every vessel arriving from sea to New Orleans, the permit of the Resident Physician, and to report to the Secretary of the Board of Health all vessels having entered the port without such permit.

SEC. 18. *Be it further enacted, etc.*, That from the first of May to the first of November, all towboats plying from the mouth of the river to New Orleans shall be liable to inspection and quarantine, and it shall be the duty of the different Harbor Masters to require from the captains of said towboats the certificates of the Resident Physician, as provided by section eight, which certificate shall not be granted before a detention of at least five days: *provided*, nothing therein contained shall be so construed as to apply to towboats plying between New Orleans and the quarantine ground, and no further.

SEC. 19. *Be it further enacted, etc.*, That the captain of any towboat or steamboat who shall receive on board of his boat, freight, goods or passengers from a vessel liable to inspection or quarantine, or who shall receive goods or passengers from the quarantine ground, without the permission of the Resident Physician, shall be punished by a fine not exceeding two thousand dollars ($2000), and by imprisonment at the discretion of the court; and all violations of the provisions of this act at the Quarantine Station on the Mississippi River and at the Rigolets shall be tried by the Criminal Court of New Orleans, and all violations of this act at the station on the Atchafalaya River shall be tried by the District Court of the parish of St. Mary.

SEC. 20. *Be it further enacted, etc.*, That the Board of Health shall cause such extracts of this act to be made as they may deem it necessary for the information of masters of vessels arriving in this State, and shall cause a sufficient number to be printed and delivered to the pilots, to be distributed to the masters of vessels as before provided.

SEC. 21. *Be it further enacted, etc.*, That every pilot, or any other person acting as such, shall deliver to the master of every vessel inward bound, one copy of the printed extract from this act, which shall be furnished him by the Board of Health; and any pilot refusing or neglecting so to do, or aiding or landing any passenger or other person, contrary to this act, shall forfeit one hundred dollars for every offense.

SEC. 22. *Be it further enacted, etc.*, That every person who shall go on board of any vessel while performing quarantine, without the permission of the Resident Physician or his assistants, shall forfeit the sum of fifty dollars.

SEC. 23. *Be it further enacted, etc.*, That the Quarantine Station shall be known by that name, and its limits shall be designated by boards placed on the boundaries, on which shall be printed in large letters; "These are limits of the Quarantine Station."

SEC. 24. *Be it further enacted, etc.*, That the sum of fifty thousand dollars ($50,000), be and is hereby appropriated, out of any money in the treasury not otherwise appropriated, to be paid to the Secretary of the Board of Health, on a resolution of a majority of the board, payable by installments; *provided*, that the second and third installments shall not be paid until the accounts of the Secretary of the Board of Health shall have been audited and approved by the Auditor of Public Accounts for former disbursements.

SEC. 25. *Be it further enacted, etc.*, That the buildings to be erected at the Quarantine Station shall consist of —— at the station on the Mississippi River, of two separate buildings, as hospitals for the sick, of a small house as a residence for the officers appointed under this act, and of a well ventilated store for the reception of the freight of such infected vessel as the Resident Physician may deem necessary to cause to be unloaded. The buildings at the Rigolets shall be constructed of wood, and consist of a hospital for the sick and of a store for the freight of vessels or steamboats ordered to be unloaded. At the Atchafalaya Station a good shed shall be provided for the freight of vessels ordered to be unloaded. The Board of Health shall receive the transfer of such land as may be necessary at the Rigolets and on the Atchafalaya River, in the same manner and under the same conditions as are required by section one, and all plans, specifications and contracts for the above buildings shall be submitted to and approved by the Governor of the State; *provided*, that the cost of said building shall in no case exceed the amount hereinbefore appropriated.

SEC. 26. *Be it further enacted, etc.*, That it shall be the duty of the Council of New Orleans, within ten days after the passage of this act, to elect three members of the Board of Health, as provided by section second of this act, and all acts, resolutions and ordinances passed by them after the expiration of the delay herein prescribed, and before the election of the members of the Board to be elected by them, shall be null and void.

SEC. 27. *Be it further enacted, etc.*, That the Board of Health, and their successors, are hereby created a body corporate, under the name of the Board of Health of the State of Louisiana, to sue and be sued under that title.

SEC 28. *Be it further enacted, etc.*, That all laws or parts of laws inconsistent with the provisions of this act be, and the same are hereby, repealed.

SEC. 29. *Be it further enacted, etc.*, That this act shall take effect from and after its passage.

JOHN M. SANDIGE,
Speaker of the House of Representatives.
ROBERT C. WICKLIFFE,
President of the Senate.

Approved March 15, 1855.

P. O. HEBERT,
Governor of the State of Louisiana.

A true copy:
ANDREW S. HERRON, Secretary of State.

The passage on the fifteenth of March, 1855, by the Senate and House of Representatives of Louisiana of "An act to establish quarantine for the protection of the State," marked a new era in the history of sanitation and quarantine in this State, and up to the present moment the great principles embodied in the twenty-nine sections of this act have not been withdrawn. Although some of its provisions have been modified, nevertheless a critical examination will show that such modifications have in many respects impaired rather than strengthened the force of the original act. Thus it has been shown in the annual report of the Board of Health for 1881 (pp. 112-118) that the abandonment of the minimum period of detention of ships from infected ports of ten full days, as ordained by the quarantine act of 1855, and the substitution therefor of the legislative act of 1876, was the direct means by which yellow fever was introduced in 1878.

If the epidemic of 1878 was due to imported pestilence, then said importation was directly and absolutely traceable to the abandonment of a definite period of detention of vessels at the Mississippi Quarantine Station.

The tariff of inspection fees under the act of 1855 was as follows: "It shall be the duty of the Resident Physician at the Mississippi Quarantine Station to visit every vessel coming from any port and entering the mouth of the Mississippi River. He shall require the captain of every vessel thus inspected to pay the following fees: For every ship, bark or seagoing steamer the sum of twenty dollars, and fifteen dollars for all other vessels."

In the supplementary act passed March 18, 1858, the fees established in section eight of the act of 1855 were thus modified:

"The Resident Physician shall require, for every certificate thus furnished, the following fees: Every sailing vessel of 1000 tons and over, shall pay thirty dollars ($30), every ship of 1000 tons or less, shall pay twenty dollars ($20); every bark shall pay fifteen dollars ($15(; every brig shallpay ten dollars ($10); every schooner seven dollars and fifty cents ($7 50); every steamboat, towboats excepted, shall pay five dollars ($5); every steamship from Florida, Alabama, Mississippi and Texas, ten dollars ($10); every steamship from other ports shall pay twenty dollars ($20)."

The bill now before the General Assembly was designed to place all parties on a more equal footing and to remove certain objectionable terms relating to tonnage, and was the natural outgrowth of the complaints of the Maritime Association, which were laid before His Excellency Governor S. D. McEnery, at the extra session of the General Assembly.

In the bill to fix and regulate quarantine fees at the Mississippi Quarantine Station, the fees have been modified so as to place ships and steamships on an equal footing, to restore the charges on barks to the original figure in the act of 1855, and also to permit of night inspection at the option of the master of the vessel and not upon that of the quarantine officer, upon the payment of double the amount charged for the day inspection.

The act of 1855 imposed a large tax on shipping for quarantine purposes, and under it a larger revenue was collected than has ever been received by the Board of Health since the American civil war, or than could be collected under the provisions of the present bill.

This statement will be conclusively demonstrated by the following record of the fees collected at the Mississippi Quarantine Station during three years preceding and thirteen years following the American civil war.

Fees collected by the Board of Health of the State of Louisiana at the various quarantine stations during a period of three years preceding the American civil war, 1869–81.

Year.	Quarantine Stations.		
	Mississippi.	Rigolets.	Atchafalaya
1857	$33,260	$445	$1,160
1858	33,403	707	210
1859	31,058	1,365	847

Fees collected by the Board of Health of the State of Louisiana at the various quarantine stations during a period of thirteen years following the American civil war, 1865-78:

	Mississippi.	Rigolets.	Atchafalaya
1869	$23,960	$3,557	$1,027
1870	21,012	2,947	950
1871	23,704	255	1,160
1872	18,903	817	1,950
1873	18,336	1,635	1,989
1874	19,280	445	277
1875	13,801	.....	.....
1876	19,347	674	40
1877	15,109	301	60
1878	19,931	93	.....
1879	18,114	178	22
1880	21,872	174	.....
1881	18,052	503	.....

From the preceding record of the receipts of the Board of Health from the various Quarantine Stations, it is evident that commerce was more heavily taxed and yielded a heavier revenue for the support of quarantine before the recent civil war than at any period following this national calamity.

During the years 1857, 1858 and 1859 the quarantine fees amounted to an annual average of $34,000, and this sum was cheerfully borne by those engaged in mercantile and commercial and maritime pursuits, whilst in 1882, when the fees amounted to but little more than one-half the sum, and in the face of two years' exemption from yellow fever, the men representing the commerce of New Orleans threaten to institute measures to defeat the collection of all quarantine fees.

In view of the preceding facts, it is evident that the object of these representatives of the shipping interests of New Orleans is to practically destroy the quarantine system of Louisiana.

The resistance to the quarantine system of Louisiana has been instigated and stimulated by the example of Charles Morgan, now represented by Charles A. Whitney & Co.

If these men succeed in their efforts, and accomplish their designs, the port of New Orleans will be practically sealed during the six months of each year, unless the General Assembly of Louisiana shall assume the entire expense of the quarantine system of the State.

In that event the absolute cost of maintaining the quarantine system would vary with the fluctuating value of State warrants.

In the present depressed and deranged condition of the finances of the State of Louisiana, it is difficult, if not impossible, to make any estimate of the probable cost to the taxpayers of Louisiana of maintaining an efficient quarantine.

Another point worthy of note is that owing to the substitution of steam for sailing vessels and the progressive increase in the size of vessels coming to this port, the quarantine fees will progressively diminish in number and the means of the board for the exclusion of foreign pestilence, etc., will consequently be curtailed.

This point will be illustrated by the following table, giving the arrivals of sea-going vessels and steamboats at the port of New Orleans each year—1847 to 1859:

TABLE SHOWING ARRIVALS OF SEA-GOING VESSELS AT THE PORT OF NEW ORLEANS, EACH YEAR, 1847-1853—VESSELS FROM SEA.

Year.	Steam-ships.	Ships, Barks.	Brigs. Schrs.	Steam-boats.
1847-48	206	1926	795	2977
1848-49	136	1597	456	2875
1849-50	147	1379	666	2784
1850-51	190	1250	704	2918
1851-52	213	1465	673	2778
1852-53	244	1524	596	3252
1853-54	204	1266	475	3076
1854-55	225	1166	426	2763
1855-56	234	1510	399	2956
1856-57	212	1281	441	2795
1857-58	247	1250	388	3264
1858-59	300	1289	409	3259

From this table there appears to have been a decrease in the arrivals of sea-going vessels of all classes, except steamships, in which a wholesome degree of progress was exhibited from 1857-1859. The decrease referred to, however, is only in number. The vessels coming to this port have been of a larger class from year to year, and the arrivals have exhibited a large increase in tonnage, as will be seen from the following table:

NUMBER AND CLASS OF VESSELS PASSING THE MISSISSIPPI QUARANTINE STATION, 1880-1881.

	Steam-ships.	Ships.	Barks.	Brigs.	Schrs.	Total.
1880	614	121	356	39	141	1271
1881	589	106	262	35	141	1132

We thus observe a progressive decrease in the number of small vessels entering the Mississippi River, whilst the actual tonnage increases within those limits determined by the depth of water, and the size of the cotton, grain and sugar crops of the Valley of the Mississippi.

The actual number of vessels entered at the United States Customhouse, in 1880, was 1344, with a tonnage of 1,375,210; average tonnage 1023. In 1881, 1002 vessels, tonnage 1,123,873, average 1121 tons.

Before the recent civil war the average tonnage of vessels entering the mouth of the Mississippi River ranged from 374 to 873 tons, whilst in 1880 the average tonnage was 1023.

Small and insignificant as the quarantine fees now are, they will, from these causes, progressively decrease.

We have, in the last place, to examine the charge that the exaction of quarantine fees for the protection of the State and Valley from the importation of foreign pestilence by the sustentation of a proper system of quarantine, tends directly to cripple and destroy commerce.

The following table presents a view of the imports and exports of New Orleans during the present century, 1805-1860:

IMPORTS AND EXPORTS OF NEW ORLEANS, 1805-1860.

YEAR.	Exports.	Imports.
1805	$3,371,545	.....
1806	3,887,323	.....
1807	4,320,555	.....
1808	1,261,101	.....
1809	541,924	.....
1810	1,890,652	.....
1811	2,659,050	.....
1812	1,060,471	.....
1813	1,045,153	.....
1814	387,191	.....
1815	5,102,610	.....
1816	5,602,948	.....
1817	9 024,812	.....
1818	12,924,309	.....
1819	9,768,753	.....
1820	7,596,151	.....
1821	7,272,172	$3,379,717
1822	7,978,645	3,817,238
1823	7,779,072	4 283,125
1824	7,928,820	4,539,769
1825	12,582,924	4,290,034
1826	10,284,380	8,165,521
1827	11,728,997	4,531,645
1828	11,947,400	6,217,881
1829	12,380,060	6,857,209
1830	15,488,692	7,599,083
1831	16,761,989	9,766,693
1832	16,530,930	8,871,653
1833	18.941,373	9,950,505
1834	26,527,554	13,781,809
1835	36,279,823	17,519,814
1836	39.179,818	15,117,649
1837	35,338,697	14,029,912
1838	31,502,248	9,496,808
1839	23,184,167	12,864,942
1840	35,136,936	10,677,190
1841	34,387,483	10,256,350
1842	28,404,149	8,033,591
*		
1850	38,105,350	10,760,499
1851	54,413,963	12,800,000
1852	48,326,913	12,800,000
1853	60,292,660	13,654,113
1854	60,932,130	14,402,050
1855	55,400,711	12,923,608
1856	80,447,963	17,183,327
1857	91,514,286	24,981,150
1858	88,382,438	19,586,013
1859	101,634 952	18,349,516
1860	108,393,567	20,920,849

From the preceding table it is evident that during the ten years extending from 1805 to 1815, inclusive, the increase of trade by no means corresponded with that of the population. On the contrary, a large falling off was exhibited even before the commencement of the war of 1812-15.

The close of the war, however, inaugurated a new era in the commercial history of New Orleans. The exports increased from $387,000 in 1814, to $12,918,000 in 1818.

This wonderful advance, however, was checked, and a large falling off was exhibited during the next six or seven years, although the average largely exceeded that of any previous period of ten years.

From 1820 up to the commencement of the civil war (1820 to 1860 inclusive) the increase of trade and population of New Orleans was remakable.

It is worthy of note that when the quarantine was established in 1855, the total exports were $55,400,711, and the imports $12,923,608, while four years after, in 1860, the exports reached $101,634,952, and the imports $18,349,516.

During the wonderful increase of the commerce of New Orleans, under the operations of the quarantine act of 1855, which embraced the essential conditions of the quarantine of this day, the revenue derived from quarantine was almost double that of any year following the American civil war.

The following table will show still further that the quarantine system of Louisiana, so far from being a burden upon commerce, has fostered and promoted it:

* From 1843 to 1849 inclusive, the exports of foreign and domestic merchandise averaged about $40,000,000 the average of the imports from foreign countries was barely $2,000,000.

TOTAL VALUE OF COMMODITIES EXPORTED AND IMPORTED AT NEW ORLEANS FOR THE FOLLOWING PERIODS.

Year.	Exports.	Imports.
1870	$101,385,257	$17,705,659
1871	93,532,797	18,333,530
1872	95,950,942	30,000,377
1873	100,930,307	18,285,527
1874	87,974,797	13,472,483
1875	76,695,700	11,637,168
1876	81,387,836	9,634,263
1877	70,270,593	11,340,751
1878	74,366,388	8,725,751
1879	81,105,822	8,259,606
1880	102,528,366	11,800,977

From the preceding statistics it is evident that under the direction of the present Board of Health the foreign commerce of New Orleans has been greater than at any period since the close of the civil war—1861-1865; and that, with the exception of the year 1860, New Orleans actually enjoyed a larger commerce in 1880, during the action of the present quarantine law, than in any other year from her foundation in 1718.

All the great sanitary and quarantine measures of the past twenty-seven years in Louisiana may be directly or indirectly traced to the act "to establish quarantine for the protection of the State," approved by P. O. Hebert, Governor of the State of Louisiana, on the fifteenth of March, 1855.

During the preceding 156 years of the existence of the colony and State of Louisiana, the sanitary and quarantine efforts by the State and people were spasmodic, unsatisfactory and of short duration, and at frequent intervals the people were decimated by foreign pestilence imported by maritime men and immigrants.

The exports of 1880 reached $102,528.376, and the imports $11,809,977; total exports and imports $114,338,353. The total amount collected from this vast sum for the protection of the commerce and trade of New Orleans and the Mississippi Valley was $21,872.C an this paltry sum, barely sufficient to keep the quarantine establishments, guarding some 500 miles of the coast, be regarded as a tax on commerce—a burden destructive to the growing commerce of New Orleans? The internal or interstate trade of New Orleans now exceeds, annually, two hundred million dollars; the preservation of the trade depends absolutely upon an efficient quarantine guarding the approaches to the Mississippi Valley from the Gulf of Mexico. New Orleans will become a great manufacturing centre for cotton, tobacco, jute and sugar, provided pestilence is kept away by a rigid system of quarantine and by an equally rigid system of domestic sanitation.

If yellow fever is allowed to enter in May or June or July, the port will be hermetically sealed until the disappearance of yellow fever. During this period, which may last as long as six months, there will be, practically, non-intercouse with surrounding States, and all manufactories will be closed, as there will be no possibility of shipping manufactured articles. No system of manufactures, however well ordered, can sustain such periods of inactivity.

These facts relate solely to the mercantile and money view of this question. Truly, when we further consider that during the years 1853, 1854 and 1855, New Orleans lost 12,780 of her citizens by yellow fever, an imported pestilence, and that only four years ago she lost 4056 souls, and about $15,000,000, by this same scourge, the necessity of the most thorough and stringent legislation with reference to quarantine fees is clearly perceived.

The State of Louisiana has a right to demand that commerce, which benfits the entire Valley, and derives its richest rewards from the cotton, sugar and grain of these great Southern and Western States, shall pay a sufficient amount for such a system of inspection and disinfection and quarantine as will prevent the introduction of foreign pestilence.

With great respect, I have the honor to remain your obedient servant,

JOSEPH JONES, M. D.,
President Board of Health, State of Louisiana.

The preceding letter was illustrated by statistics, giving the main facts and figures relating to the commercial history and progress of population in Louisiana.

GENERAL CONCLUSIONS.

1. The minimum length of quarantine detention should be definitely fixed by enactment of the General Assembly of the State of Louisiana.

All nations and States, holding commercial relations with New Orleans, should have at all times a firm basis for calculation as to the *minimum period of quarantine detention* of ships from infected ports.

The important subject of minimum period of quarantine detention should not be left to the accident of political changes, or to the varying powers and influence of commerce, or to the changing caprice of popular opinion, prejudice or fear.

In the immediate presence of pestilence the people are timid, and prone to demand the unreasonable and even barbarous measures dictated by abject fear and absolute devotion to self-preservation, and it has been too often the case that the most liberal, enlightened and fearless of the medical profession have been powerless either to control, direct or breast the storm of popular terror, indignation, prejudice and abuse.

2. The minimum period of quarantine detention of vessels from infected ports, at the mouth of the Mississippi River, should not be less than ten (10) days.

If under such a restriction commerce with ports infected with yellow fever is impossible, then let the commerce perish, in order that the health and lives of the people of Louisiana may be preserved and the safety of the surrounding States assured.

3. Quarantine in Louisiana has failed in excluding foreign pestilence on the one hand, and in establishing confidence in the health authorities of surrounding States on the other hand, because it has been uniformily opposed by the commercial interests, and condemned by members of the medical profession, who have generally been supposed to be competent to judge of such questions.

The system of quarantine so wisely inaugurated in 1855 has been subject to violent and unreasonable changes, and has been made to suit the changing opinions of the so-called people, as developed in the fierce conflict between private gain and public health. No system of quarantine has been subjected to more violent and sudden changes or to more empirical treatment. Upon the experiments of a few years, those placed at the head of commercial and sanitary affairs jumped to unwarranted conclusions and risked the lives of the people upon the results of crude and illy-devised experiments:

These propositions will be sustained by the following facts:

(a) The act of 1855, "To establish quarantine for the protection of the State," absolutely compelled the Board of Health to fix the number of days of quarantine for vessels liable to it, "not to be less than ten days." See sections 6, 9 and 13.

The minimum period of quarantine detention of ten (10) days is again enunciated in section 3 of the supplementary act, approved March 18, 1858; but we find an important and, in the light of history, a fatal change in the entire system of quarantine detention, which rapidly developed the abundant harvest of disease and death.

Section 3 of the act of 1858 provides: "That all vessels in a foul condition, or vessels whose crews or passengers are suffering or have suffered while on the voyage from contagious, pestilential or infectious diseases, shall be detained by the Resident Physician at the Quarantine Station such time, not less than ten days, as may be deemed by him necessary."

Section four of the act of 1858 provides: "That in case of emergency the Board of Health shall have power to issue proclamation of quarantine without reference to the Governor, and to enact all needful regulations for the enforcement of the same."

An important and, as the events of 1858 show, a fatal modification was made in section five, as follows:

"That vessels *out ten days, presenting clean bills of health, not having, nor having had, sickness on board, and which are not in foul condition, shall be permitted to pass to the city* after thorough fumigation by disinfecting agents; to effect which purpose the Resident Physician shall detain said vessel as long as he may deem necessary."

In 1855, New Orleans lost 2670 of her citizens by yellow fever, while in 1856 she lost only 74, and in 1857 199, by the same disease.

The short experience of two years (1856 and 1857) of comparative immunity from yellow fever, appears to have given power to the opponents of quarantine, and served to obliterate the terrible scenes of 1853, 1854 and 1855, and led the Legislature of Louisiana to enact the important and fatal modification of counting the ten days of detention not at the quarantine stations, but from the point of departure to the port of New Orleans.

It is well known that the period of comparative exemption from yellow fever in 1856 and 1857 was immediately followed by the epidemic of 1858, which, in the history of New Orleans, ranks second only to 1853 in severity, and claimed 4855 victims.

A period of eight years followed of comparative exemption from yellow fever, the deaths being as follows: 1859, 92; 1860, 15; 1861, 0; 1862, 2; 1863, 2; 1864, 6; 1865, 1; 1866, 185.

During four of these years (1860-65) the city of New Orleans was excluded from active participation in foreign commerce by the existence and disastrous fortunes of the great American civil war. Cholera, however, appeared in 1866, and continued through 1867, receding in its influence as the yellow fever advanced, and again exciting alarm by the number of its victims as the yellow fever subsided, 234 deaths from cholera being reported in November, and 210 deaths in December.

In 1867 yellow fever appeared in June, and before the end of the year destroyed 3107 of the citizens of New Orleans.

The Quarantine act of 1870 was important, in that it conferred upon the Board of Health the "power to appoint Sanitary Inspectors" in the District of New Orleans and in the City and Parish of Jefferson, "in lieu of the four health officers now appointed by the Council of New Orleans;" and we find, also, that in accordance with sections nine and thirteen, of the act of 1855, the number of days of quarantine of vessels liable to it was fixed, "not to be less than ten days." It appears, however, that practically the period from port to port was counted in the ten days.

b. The empirical use of carbolic acid for the arrest of the spread of yellow fever in New Orleans led to most important modifications in the quarantine system of Louisiana, and to such modifications may be traced the wide-spread and fatal epidemic of 1878, as well as the epidemics of 1873 in Memphis and Shreveport.

Carbolic acid appears to have been first used for the "arrest of yellow fever" as a "disinfectant" during the memorable epidemic of 1867, under the direction of S. E. Smith, M. D,, President of the Board of Health. Yellow fever appeared in June. The first case died in the Charity Hospital on the tenth of this month.

Dr. Smith states that "*Every house where a case was reported as having occurred was, under the direction of the health officers, cleansed and fumigated with sulphurous acid gas and carbolic acid. The premises, likewise, were subjected to the provisions of the health ordinance, and the privies purified with the sulphate of iron.*"

Dr. Smith held that "The slow development of the cause of the fever, its apparent temporary suspension in particular localities, the exceeding mild character of the disease, leads to the hope that it may be kept in check, if not entirely eradicated, in the first cases, by the prompt application of disinfectants."

At this time Professor E. S. Lewis, Health Officer of the Third District, expressed himself as in favor of the carbolic acid disinfection for the arrest of yellow fever. Professor Lewis says: "The number of houses disinfected of yellow fever from the middle of August to November 1 was about 300. These houses were not only fumigated and disinfected with sulphate of iron, in solution, but were pumped from top to bottom with carbolic acid, which impregnated the atmosphere for some distance off. This was repeated as often as new cases occurred."

Notwithstanding these measures the disease became epidemic. An immense number of cases occurred, and 3107 deaths were reported as directly caused by yellow fever, in addition to 990 deaths caused by the various forms of paroxysmal and continued fevers.

With the overthrow of the Democratic party by the action of the so-called reconstruction acts, and with the installment of the Republican party, the sanitary affairs came into the hands of Dr. C. B. White, late Sanitary Director of the New Orleans Auxiliary Association.

In 1869 only three deaths were recorded as due to yellow fever.

During the summer and autumn of 1870 the deaths from yellow fever, as reported by the Board of Health, numbered 587; but it is worthy of note that other forms of fever, chiefly malarial fever, caused 591 deaths; total from fevers in 1870, 1178; of this number 211 were recorded as due to pernicious and congestive fevers. The lavish use of carbolic acid by the Board of Health for the "arrest of yellow fever" is well known, and the total sums of money expended have been before recorded. According to the published statement of the President, all cases that came to the knowledge of the Board of Health were treated by the free use of such disinfectants as chlorine, sulphurous acid, carbolic acid and lime.

The monthly mortality by yellow fever was as follows: August, 3; September, 231; October, 242; November, 106; December, 5; total, 587. In other words, yellow fever followed its usual course of rise and decline, and the heaviest mortality occurred in the month of October, after the thorough installation of the *carbolic acid disinfection.*

In 1871 the cases of yellow fever reported were 114 and the deaths 54; the disease was chiefly confined to the Fourth District, but sporadic cases occurred in other portions of the city, as in numberless other years, in this and other Southern cities, in which neither carbolic acid nor any other disinfectants were used. In 1871 the disease was still more limited, only 83 cases and 39 deaths having been officially reported.

In 1873 the first case of yellow fever occurred on board the Spanish bark Valparaiso.

According to the statement of Dr. C. B. White, President of the Board of Health, "This bark left Havana June 15, in ballast, and arrived at quarantine, on the Mississippi River, June 14, and was detained there two days, after which she was released and permitted to come to the city, arriving June 26." The mate, Arua, was taken sick with yellow fever on the fourth of July. It is evident, therefore, that if this bark had been held at the Mississippi Quarantine Station for ten full days, according to the laws of Louisiana, not only would New Orleans have escaped the fever, but Memphis and Shreveport would have, in all probability, escaped the terrible epidemic of 1873. Of the 388 cases and 226 deaths the monthly record was as follows: July, 8 cases, 3 deaths; August, 40 cases, 19 deaths; October, 135 cases, 79 deaths; November, 22 cases, 17

deaths. Yellow fever followed its usual course, increasing up to a certain period, and then declining with the fall of temperature, and ceasing with the appearance of frost. No connection between the decline and cessation of this disease and the vast amounts of carbolic acid used for purposes of "disinfection" could be traced.

In 1874 Dr. Alfred Perry instituted what he called a new plan of disinfection at the Mississippi Quarantine Station, from June 16 to October 31, and affirmed that "this disinfection was more complete than has ever before been performed anywhere in the world." The essential portion of this system of disinfection consisted in forcing the sulphurous acid gas, resulting from the burning of sulphur in an iron furnace, down the hold of ships by means of a wind blast or blower. Dr. Perry held that whilst in 1871 yellow fever was imported into New Orleans through the quarantine by the brig Hope, and in 1872 by the steamship Havana, and in 1873 by the bark Valparaiso, that no yellow fever came through the quarantine during this period of service (June 23 to October 13), although it was brought in by the bark Queenstown, October 16, after his disinfection had ceased.

The results of the experiments of Dr. Perry were received as conclusive by the President of the Board of Health, by the Chamber of Commerce, and by a considerable portion of the Medical Profession, and the Legislature was petitioned to abolish the specific period of detention.

The Hon. G. W. R. Bayley read an elaborute defense of the system of disinfection practiced by the Board of Health, and thus defines the theory upon which the Board of Health acted:

"The theory that yellow fever is propagated by germs from infected centres, along surfaces in all directions, and that it is not conveyed in the atmosphere otherwise, seems best to explain its phenomena. The disease is local and must be destroyed, and its spread prevented by local remedies. Carbolic or phenic acids '*kill in loco* parasites (or germs) of both systems'—animal or vegetable—as announced by Professor Gritzier, of Paris, in 1874.

"The New Orleans Board of Health have since, and including 1870, acted upon this knowledge—only recently discovered elsewhere—and applied carbolic acid to germ-infected surfaces, and to surfaces surrounding infected centres or surfaces, for the purpose of destroying and preventing the multiplication and dissemination of yellow fever disease germs, and knowing that it would '*kill in loco*' all germs, whether animal or vegetable, with which it came in contact, and that none of them could cross such a disinfected surface."

The President of the Board of Health, Dr C. B. White, in his Annual Report of 1875, says:

"The paper of Hon. Mr. Bayley, of this Board, read before the Chamber of Commerce of this city, and the resolutions adopted by that body are of special interest, as both, based upon the supposed advances in theory, method and results of disinfection will be brought before the Legislature to essentially modify the definite time—detention feature of existing quarantine laws."—Annual Report, 1875, p. 15.

RESOLUTIONS OF THE CHAMBER OF COMMERCE.

"*Resolved, by the Chamber of Commerce of New Orleans*, That the system of disinfection to prevent the propagation and spread of infectious diseases in our city, practiced with so much apparent success since 1870, should be continued and encouraged by the State authorities; also, that the efforts of the Board of Health to prevent epidemics are approved and commended."

* * * * * * * * * * *

"*Be it furthur Resolved*, That this Chamber recommends to the present Legislature to grant authority to the Board of Health to permit, at its discretion, the passage of vessels from infected ports to the city, after the same have been satisfactorily and thoroughly fumigated and disinfected, in lieu of the prescribed time-detention called for by the existing quarantine law."

The following petition to the Board of Health, in regard to quarantine, is a remarkable document, and was published in the New Orleans Medical and Surgical Journal (new series), vol. 2, 1874-5, pp. 960-964:

NEW ORLEANS, April 26, 1875.

To the President and Members of the Board of Health of the City of New Orleans:

Gentlemen—The undersigned, practicing physicians of the city of New Orleans, beg leave to submit:

1. That after many years of experiment, it has been clearly proven that quarantine does not protect this city from yellow fever.

2. That the commerce of this city upon which her prosperity and the livelihood of more than half of her population, directly or indirectly depend, must continue to be most seriously damaged by the repetition of said quarantine.

In view of these facts, we pray your honorable body not to recommend in future the imposition of any greater restriction upon vessels arrived from infected ports than to require them to be disinfected at the quarantine stations, and to remove to hospital at the same points any cases of yellow fever which may exist on board; the detention for this purpose not to exceed *twenty-four hours*, and unaffected passengers, in the meantime, allowed to proceed to the city.

(Signed)

T. Alpuente, D. M. P., 142 Royal street.
A. Foster Axson, M. D., 178 Annunciation street.
E. B. Beach, M. D., 16 Claiborne street.
C. Beard, M. D., 14 Dauphine street.
S. M. Bemiss, M. D., 558 St. Charles street.
Henry Bezou, M. D., 144 Dumaine street.
C. J. Bickham, M. D, 710 Magazine street.
W. P. Brown, M. D, 603 St. Charles street.
J. Borde, D. M. P., 130 Customhouse street.
D. Warren Brickell, M. D., 14 Dauphine street.
J. N. Folwell, M. D., 221 Carondelet street.
Edward Harrison, M. D., 112 Canal street.
Alexander Hart, M. D., 19 Camp street.
F. Hawthorn, M. D., University Building.
D C. Holliday, M. D., 112 Camp street.
A. C. Holt, M. D., 242 Felicity street.
O. Howard, D. M. P., 117 Royal street.
Wm. E. Kennedy, M. D., 168 Julia street.
T. S. Kennedy, M. D., 168 Julia street.
P. A. Lambert, D. M. P., 117 Royal street.

A. Capdeville D. M. P., 449 St. Charles street.
J. Carter, M. D., 694 Magazine street.
John J. Castellanos, M. D., 72 Orleans street.
S. E. Chaillé, M. D., University Building.
Alcée Chastant, M. D., 485 Magazine street.
H. C. d'Aquin, D. M. P., 41 North Rampart street.
John Dell'Orto, D. M. P., 243 Julia street.
J. P. Davidson, M. D., 242 Prytania street.
D. H. Dennis, M. D., 245 Baronne street.
E. DeBlanc, M. D., 159 Dumaine street.
C. Faget, D. M. P., 159 Burgundy street.
J. A. C. Fisher, M. D., 168 Felicity street.
H. D. Schmidt, M. D., 90 North Rampart street.
B. Scratchley, D. M. P., 377 Dryades street.
E. T. Shepard, M. D., 1140 Magazine street.
E. Souchon, M. D., University Building.
Benjamin Stillé, M. D., 204 Prytania street.
C. H. Tebault, M. D., 469 Baronne street.
J. Trudeau, M. D., 132 South Rampart street.
Charles Turpin, D. M. P., 41 North Rampart street.
J. H. Wiendall, M. D., 304 Bayou road.
S. S. Wood, M. D., 768 Magazine street.
Thomas Layton, D. M. P., 702 Magazine street.
J. Hampden Lewis, D. M. P., 289 Royal street.
E. S. Lewis, M. D., 70 Frenchmen street.
F. Loeber, M. D., 161 Baronne street.
Samuel Logan, M. D., University Building.
J. J. Lyons, M. D., 219 Carondelet street.
Sabin Martin, D. M. P., 96 Burgundy street.
Armand Mercier, D. M. P., 220 Girod street.
W. S. Mitchell, M. D., 10 Carondelet street.
T. J. Moreau, M. D., 118 Marais street.
T. G. Richardson, M. D., University Building.
P. Yeiser, M. D., Louisiana avenue.
M. Schuppert, M. E., 179 Carondelet street.
J. F. Siguer, M. D., 82 Carondelet street.
Howard Smith, M. D., 91 Prytania street.
J. C. Stickney, M. D., 168 Orange street.
F. L. Taney, M. D., 377 Dryades street.
J. Touartre, D. M. P., 142 Dumaine street.
D. Tureaud, M. D., 132 South Rampart street.
W. D. Watkins, M. D., Rousseau street.
W. B. Wood, M. D., 768 Magazine street.

The New Orleans Medical and Surgical Journal, edited by S. M. Bemiss, M. D., Vol. II, New Series. 1874–5. May, 1875, pp. 960–962.

The editor of the New Orleans Medical and Surgical Journal not only published the petition to the Board of Health in regard to quarantine, "in order to exhibit the sentiment of a large number of our leading physicians in respect to the true value of quarantine," but strongly indorsed the same by his signature and by a special editorial, from which we extract the following:

"As an illustration of the drift of medical opinion, it is a movement which cannot be too highly estimated. Whatever of wisdom—whatever of actual benefit to man in a sanitary point of view may have been accorded to the practice of quarantine in former days, we are forced to admit its entire infeasibility and impracticability at the present time. The folly exhibited by attempts to blockade the great natural highway of commerce, which the Mississippi river affords, and yet permitting unrestricted ingress of persons and families by the general railways which centre here, is too apparent to require discussion. * * *

Recognizing these truths, the medical profession desire to do away with restrictions on commerce which render no compensation in the way of protection against disease. What other means of protection do we propose to substitute? Surely nothing promises such good results as those measures which are practiced under the term 'disinfection.' * * * *

"The good results ascribable to the use of disinfectants point to this method as the proper substitute for quarantine.

"The medical profession of this city includes a member whose experience, accurate chemical knowledge, great zeal and ingenuity in the application of means, qualify him most admirably for attaining the best results possible to be reached by disinfection. I refer to the gentleman who during the last year did himself so much credit in this kind of service. If an epidemic seems imminent on account of threatened approach of yellow fever, his employment, with a *carte blanche* as to the means to be used, would afford a satisfactory test of the amount of benefit to be obtained by disinfection.

"The quarantine laws of Louisiana demand revision and alteration. It is strikingly absurd to attempt to settle by legal enactments questions which are still *sub judice* at the bar of science. This absurdity must be charged against any statute which expressly provides that members constituting a scientific commission shall hold to one or another opinion in regard to unsettled questions connected with their duties. The explanation of this curious feature in the statute must be found in the fact that it was passed shortly after the great epidemic of 1858, when people were bewildered in regard to the best mode of securing exemption from such fearful plague. In the matter of fixing the duration of detention at quarantine they" (the members of the Board of Health) "possess some powers, but the law explicitly states the *period* shall not be less than ten days"—[New Orleans Medical and Surgical Journal, edited by S. M. Bemiss, M. D. Vol, II, N. S., pp. 960–962.

4. The combined efforts of the Board of Health, the Chamber of Commerce and "*a large number of our leading physicians,*" led to the enactment of the following law, in which the great scientific fact that the poisons of specific diseases act in accordance with definite laws, and after introduction into the system require a certain period (period of *incubation*) for the manifestation of their characteristic and recognizable phenomena was ignored. Small-pox has its period of incubation as well as the vaccine virus, and yellow fever most generally manifests itself within from two to nine days after exposure to its cause.

The framers of the Quarantine Act of 1855 were, therefore, wanting neither in science nor experience, but recognized a well-known law of disease, and wisely framed their ordinance for the protection of the State of Louisiana and the Valley of the Mississippi from foreign pestilence, by including as an essential element of quarantine, a period of minimum detention of ten days at Quarantine Station.

The advanced Sanitarians and Legislators of Louisiana, in 1876, condemned these "obsolete and absurd notions," developed by the careful observations of such men as Rush and Jenner, and upon the results of five years' experimentation with carbolic acid, and a little less than five months' trial with a "new process of disinfection" at the Mississippi Quarantine Station, substituted the following:

AN ACT to authorize and empower the Board of Health of the State of Louisiana to detain and disinfect, and to pass after disinfection, vessels from infected ports, and from Quarantine Station, in lieu of a time of quarantine detention, in certain cases, and to repeal conflicting laws.

SECTION 1. *Be it enacted by the Senate and House of Representatives of the State of Louisiana, in General Assembly convened.* That the Board of Health of the State of Louisiana be and is hereby authorized and

empowered, at its discretion at any time, to cause the detention at quarantine stations, for purposes of disinfection and fumigation, and to disinfect, fumigate and purify any and all vessels from ports in which yellow fever usually prevails, or from ports where other contagious or infectious diseases are reported to exist; and after such disinfection, fumigation and purification at quarantine, to permit the passage to the city of New Orleans of such vessel or vessels, without any prescribed time of detention, when it is satisfied that the same have been properly and sufficiently disinfected and purified, so that said vessel or vessels may safely be permitted to pass without damage to the public health or risk of contagion.

SEC. 3. *Be it further enacted, etc.*, That all laws or parts of laws conflicting with this act, be and the same are so far as respects the operation of this act, hereby repealed, and that this act shall take effect from and after its passage.

(Signed) E. D. ESTILETTE,
Speaker of the House of Representatives.

(Signed) C. C. ANTOINE,
Lieutenant Governor and President of the Senate.

Approved March 24, 1876. WILLIAM P. KELLOGG,
Governor of the State of Louisiana.

A true copy:
P. G. DESLONDE, Secretary of State.

Such measures prepared the way for the great epidemic of 1878.

5. The yellow fever epidemic of 1878 in New Orleans and in the Mississippi Valley was traceable to the introduction of the disease through the Mississippi Quarantine Station, in consequence of the substitution of so-called "disinfection" for the minimum period of detention of not less than ten days.

The late Dr. Samuel Choppin, in his report to His Excellency, Frances T. Nicholls, Governor of the State of Louisiana, said:

"The Board of Health accepts the theory that yellow fever is a zymotic disease, contagious in its nature by the multiplication of its germs, the infecting distance of which is at first short; that it travels on surfaces, and, like the orange, the banana and the sugar cane, is exotic, its cradle being the Antilles. * * *

"The experience of 1877 affords valuable teachings in the absence of our wonted scourge. First, it testifies that yellow fever may be entirely destroyed here by the frost of an unusually vigorous winter, from which it follows that this is not an original habitat of the infection. Secondly, it testifies the utility of a suitable quarantine system. Thirdly, it testifies that, by the combined action of frost, quarantine and disinfection when required, we may reasonably hope to keep the mastery over this pestilence, which has made our city a dread to its inhabitants, and an abhorrence to strangers, at incalculable cost to its commercial prosperity. * * *

"The advantage of a system of quarantine, with the omission of the objectionable feature of detention, and reliance on inspection and disinfection, was so strongly commended to the Legislature in 1876 as to obtain its legal sanction, and the experience of two years justifies our confidence in its efficiency. Vessels arriving from infected ports have been subjected to fumigation by sulphur and the disinfection of the bilges by carbolic acid, while the personal baggage and beds of their crews and passengers have been treated with dilute carbolic acid. This has been continued from the issuance of the Governar's proclamation at the Mississippi Quarantine from June 15 to November 15, 1877, and at the Rigolets and Atchafalaya from June 15 to November 15."—[Annual Report of the Board of Health of the State of Louisiana to the General Assembly for the year 1877, pp. 13–15.

The origin of the fearful epidemic of 1878, which swept up the great Valley, embracing in its deadly coils a space of country extending from New Orleans, on the Gulf of Mexico, to Chattanooga on the East and St. Louis on the Northwest, was thus detailed by Dr. Choppin, in his Report to His Excellency, Francis T. Nicholls, Governor of the State of Louisiana, on January 1, 1879.

Dr. Samuel Choppin says:

"It would be well here to give the early history of the recent outbreak, and what we regard as the most probable explanation of its occurrence.

"On the twenty-second of May the sanitary condition of New Orleans was as good as it generally is at that season of the year. Malarial fevers were not more prevalent than usual, and there was not a single case of yellow fever in New Orleans. On the morning of that day the steamship Emily B. Souder arrived and was moored at the foot of Calliope street.

"The first cases of yellow fever at New Orleans in 1878, undoubtedly, were two of the officers of the above steamship, namely: Clark, the purser, and Elliott, one of the engineers. Clark was ill when the vessel reached the quarantine, but managed to pass inspection as suffering merely from neuralgia. Quite lately it has transpired, through the inquiries of the Yellow Fever Commission, that he boasted, after arrival in New Orleans, that he had 'beaten the quarantine doctor.' Be that as it may, he went ashore sick on the morning of May 23, and two days after he died, with symptoms which belong unmistakably to yellow fever, at a house on Claiborne street, near Conti. * * *

"Elliott sickened after his arrival, and was attended by a private physician at his boarding house, corner of Front and Girod streets, until the evening before his death, without apparently a suspicion on the part of any one that he had yellow fever. Late in the evening of May 29 he was removed to Hotel Dieu, where he died within a few hours. A careful *post mortem* examination was made by two competent physicians, and the body was subsequently inspected by myself. No one of us three doubted the nature of the disease.

"Here it is proper to observe that the only case of yellow fever in New Orleans in 1877 came through the quarantine by practicing deception on the Resident Physician. This man, a passenger on a British steamer, took passage at Havana and sickened before arrival at quarantine. However, he was able to go on deck, and passed inspection while sitting with a newspaper in his hand. Fortunately, on reaching the city, he fell into the hands of a physician who promptly reported his case as yellow fever to the Board of Health, and vigorous means were at once adopted to arrest the infection. No infection had survived the vigorous winter of 1877–8; no further harm resulted from the single case of 1877, and it is fair to presume that no trace of the fever existed here previous to May 22.

"In 1878 the cases from the Emily B Souder were unknown to the health authorities for a full week after the arrival of the ship at her wharf, at the head of Calliope street No further time was lost in making all of the usual means of disinfection, around the intersections of Front and Girod streets, in and around Hotel Dieu, where Elliott died, and in and around the house where Clark died, on Claiborne street. No more cases followed within the period of their apprehended occurrence, and it was supposed the danger was passed. About the middle of July some cases of a strongly suspicious character came to light on Constance street,

near its intersection with Terpsichore, and in a few days all doubt was removed as to their nature. About the seventh of July a young man by the name of Cohn came to the Touro Infirmary from Gasquet street, between Villere and Marais, presenting strong appearances of yellow fever, but he recovered before attention was drawn to Constance street, and his case was considered questionable."

It is not material to the great principle which we wish to establish and enforce, namely: *that quarantine based merely upon disinfection without a sufficient period of detention for observation is a delusion and a sham*, that we should enter into the discussion of the relations of the epidemic of 1878, to the cases of Clark and Elliott, imported by the Emily B. Souder, in the month of May (I have elsewhere fully and decidedly expressed my opinion upon this question), but I desire to bring further proof that if the Emily B. Souder did not import pestilence in May, she did import yellow fever in the early part of July, 1878.

The quarantine physicians at the Mississippi Quarantine Station during the events just recorded, and those now to be noted, were, in accordance with the appointment of His Excellency Francis T. Nicholls, Dr. P. S. Carrington, Resident Physician, and Dr. G. Farrar Patton, Assistant Resident Physician, at the Mississippi Quarantine Station.

Dr. P. S. Carrington and Dr. G. Farrar Patton served at the Mississippi Quarantine Station from about December 1, 1877, to May 21, 1880.

This period embraces the great epidemic of 1878, during which the yellow fever was introduced through this station into the Mississippi Valley by the steamship Emily B. Souder.

Whatever doubt may have existed as to the spread of yellow fever from the two cases imported by the Emily B. Souder in May, 1878, no doubt can be had as to the accuracy of the reports to the St. Louis Medical Society on the yellow fever of 1878, which shows that W. P. O'Bannon contracted yellow fever from cases concealed on this ship, about the fourth of July, 1878, and died with all the symptoms of yellow fever, in St. Louis, on the nineteenth of July, 1878.

Dr. A. P. Lankford gives the following information with reference to the case of W. P. O'Bannon, very probably one of the first cases in the United States, and the first or second case in Missouri, and reared in St. Louis, left this city on the steamer Commonwealth, for New Orleans, Capt. Shields, his uncle, in command, late in June, 1878, holding the position of assistant second clerk:

"O'Bannon lived on board the Commonwealth, and while at New Orleans, about the third or fourth of July, went on board the Emily B. Souder, then lying at the levee, notwithstanding the prohibition of his uncle against his going on board any such vessel. The Souder had lately arrived from the West Indies, with a cargo of sugar, and at the time of O'Bannon's visit had two cases of yellow fever on board, which had apparently escaped the vigilance of the authorities.

"It is probable, however, that O'Bannon came into contact with these cases. The Commonwealth lay close to the Souder at the time, and transferred to her deck from the steamship 500 hogsheads of sugar for the Belcher Refining Company, in St. Louis. It is not known that O'Bannon went into the hold of the Souder during the process of transfer, nor is it probable that he did so, as his duty as clerk required his presence on the deck of the Commonwealth. From the time of the transfer until the twelfth of July, involving the entire period of the return trip of the Commonwealth to St. Louis, young O'Bannon who was only 16 years of age, was romping and playing among the hogsheads of sugar, which were on the main deck of the Commonwealth, with his sister and cousin, neither of whom were subsequently affected. He arrived in St. Louis on the night of Thursday, July 11, 1878, and seemed perfectly well on the Sunday following, being seen on that day by Dr. Langford, on a visit to the family. The next day (Monday) he complained of inappetence, and of slight chilly sensations. About 5 p. m. he was found by his mother, after a somewhat prolonged search, under the piano in the parlor, in high fever and profound sleep, from which it was very difficult to arouse him.

"Dr. Lankford being called, saw him at 1 p. m. on July 16. The stupor continued, and the fever did not abate; the tongue was inclined to be dry, and the skin devoid of moisture. The bowels had been constipated, urine scanty and high colored. There was, as yet, no nervous irritability of the stomach, but much thirst. These symptoms increased in intensity, the patient became delirious during the night, and the fever was observed to be of a continuous character. Some irritability of the stomach had now appeared. At a consultation with Dr. J. R. Baudury next day (Thursday), the fever was noted as still continuous. There was frequent vomiting, and about 8 p. m. ejection of unmistakable black vomit, which had begun some four hours previously. The dejections also were very dark. There was no very marked icterus until the morning after this, when suppression of urine was also determined. The patient died on Friday, the nineteenth of July, 1878, at about 1 p. m., the fifth day of his disease.

"At this date there was no declared yellow fever in the United States, except the cases on board the Emily B. Souder; none as yet reported in New Orleans or elsewhere. At the consultation on the eighteenth of July the case was declared to be one of yellow fever, and the diagnosis was thoroughly verified at the autopsy. Drs. Lankford, Baudury and P. G. Robinson being present. (See statements of Drs. Baudury and Robinson).

"Dr. Lankford has seen many cases of intermittent fever this past year. He regards these fevers as having been exceedingly obstinate, requiring the persistent administration of large and frequent doses of quinine and arsenic to overcome them and prevent recurrence. An unusually high temperature, and a disposition to assume a remittent character was common.

"Dr. J. R. Baudury saw young O'Bannon, in consultation with Dr. A. P. Lankford, on the third day of the disease (seventeenth of July). The characteristic symptoms were stupor, almost simulating coma; there were no convulsions until the morning of the day he died; there was much gastric irritability, with ejection of glaizy matter at first, but the next day black vomit was thrown up; the icterous was not marked during life, except on the last day. The patient complained of intolerable pain in the head, when the stupor remitted occasionally. Towards the end the vomiting was very profuse; there was great jactitation and subsultus, and some convulsions. A blister which had been applied to the nape of the neck became gangrenous after a few hours. The case, in Dr. Baudury's opinion, was indisputably one of typical yellow fever.

"Dr. Baudury saw many cases of malarial fever this past year, and regards them as having been very unusually severe, difficult to manage and strongly disposed toward recurrence.

"Dr. P. G. Robinson, 1523 Olive street, was present at the autopsy of the youth O'Bannon. The patient had all the characteristic symptoms of yellow fever, vomiting black vomit, which was found abundantly in the stomach and intestines after death. The skin was intensely yellow. This occurred a few days after the patient's return from New Orleans, where, as elsewhere detailed, he had gone on board an infected vessel. From the facts observed on autopsy Dr. Robinson affirmed positively that the case was one of yellow fever. This occurred early in the season, before there was any report of the prevalence of yellow fever in New Orleans.

Reports to the St. Louis Medical Society on Yellow Fever, containing the Report of the Committee appointed to Inquire into the Relations of the Epidemic of 1878 to the City of St. Louis, etc. St. Louis: Geo. O. Rumbold & Co., 1879. Pp. 16, 17-34.

6. In view of the preceding facts, it is but reasonable to conclude that if a definite period of detention for vessels from infected ports had been enforced by the Board of Health at the Mississippi Quarantine Station during the months of May, June and July, cases of yellow fever would not have passed that Quarantine Station unobserved.

If the epidemic of 1878 was due to imported pestilence, then said importation is directly and absolutely traceable to the abandonment of a definite period of minimum detention at the Mississippi Quarantine Station.

The abandonment of the minimum period of quarantine detention, and the substitution instead thereof of "disinfection by the legislative acts of 1876, was the direct result of the recommendations of the Board of Health, the Chamber of Commerce and certain 'leading physicians of New Orleans.'"

Immediately after the epidemic of 1878, in recording my experience, I said: "One great defect in the Mississippi quarantine system is that there are no arrangements for breaking the bulk of the cargo, and no thorough fumigation of vessels infected with yellow fever can take place unless the bulk is broken. The mere burning of sulphur in pans, or the injection of the fumes, is not sufficient to thoroughly disinfect the vessel.

"Quarantine should not only command all the outlets and inlets to New Orleans, but all vessels from infected ports should either be excluded, or else the cargoes should be landed at the Quarantine Station, and should be thoroughly fumigated and then transferred to lighters to be transmitted to the city. * * * Vessels trading with Southern ports liable to be affected with yellow fever should be constantly under sanitary police. A medical officer should accompany the vessel and superintend the crew in the infected ports, and disinfect the vessel in port and upon the voyage, and see that every prominent sanitary measure be instituted. An imperfect quarantine, such as now exisis at the inlets of the Mississippi, has been, and will be, a sham and a delusion. The question as to the foreign or domestic origin of yellow fever should be determined by an absolute quarantine."

Yellow fever Epidemic of 1878 in New Orleans, by Joseph Jones, M. D. New Orleans Medical and Surgical Journal, February, 1879, p. 616.)

7. Holding the opinions just quoted with reference to the yellow fever epidemic of 1878, and with reference to the necessity of a fixed period of quarantine detention, after my election as President in April, 1880, I urged upon the Board of Health and His Excellency Governor Louis A. Wiltz the importance of conforming to that portion of the Quarantine Act of 1855, that vessels coming from ports where pestilential, contagious or infectious diseases were prevailing, should be subjected to a detention at the Quarantine Stations of not less than ten (10) days.

The exact language which I held was this: "All vessels from any place where disease subject to quarantine (pestilential, contagious or infectious diseases) existed at the time of their departure, or which shall have arrived at any such place and proceeded thence to New Orleans, or on board of which during the voyage any case of such disease shall have occurred, arriving between the first day of May and the first day of November, shall remain at quarantine not less than ten days, and shall perform such and further quarantine as the Quarantine Physician and the Board of Health may prescribe; unless the Quarantine Physician with the approval of the Board of Health, shall sooner grant a permit for said vessel or cargo, or both to proceed."

The Board of Health, however, declined to recommend any specific period of quarantine detention, and the Governor accordingly issued the following proclamation:

STATE OF LOUISIANA, EXECUTIVE DEPARTMENT.

Whereas, Section 3640 of the Revised Statutes of the State of Louisiana, approved March 14, 1870, provides that the Governor shall issue his proclamation, upon the advice of the Board of Health, declaring any place where there shall be reason to believe a pestilential, contagious or infectious disease exists, to be an infected place, stating the number of days a quarantine is to be performed by the vessels, their passengers, officers and crews, coming from such place or places.

Now, therefore, in pursuance of the provisions of the statute aforesaid and on the recommendation of the Board of Health, I, Louis A. Wiltz, Governor of Louisiana, have thought proper to issue this my proclamation, declaring that vessels arriving from and after the tenth day of May, 1880, from the following ports known to be infected with yellow fever, viz: Vera Cruz and Rio de Janiero, and the officers, crews, passengers and cargoes arriving from the above named places, or having touched or stopped at any of them, shall be subject to such detention and quarantine as the Board of Health may direct.

And I do hereby direct the proper officers at the Quarantine Station to rigidly enforce the execution of this proclamation, and any violation of the laws of this State on this subject matter to be vigorously prosecuted,

In testimony whereof I have hereunto set my hand and caused the seal of the State to be affixed, at the city of New Orleans, this fourth day of May, in the year of our Lord one thousand eight hundred and eighty, and of the hundred and fourth year of the independence of the United States of America.

By the Governor: LOUIS A. WILTZ.

WILL. A. STRONG, Secretary of State.

The period of detention was left indefinite and dependent upon the action of the Board of Health, and in consequence this proclamation did not secure that measure of confidence in surrounding States which was to be desired.

At the earliest practicable moment this subject was again urged upon the attention of the Board of Health, and a resolution on the twelfth of May, was unanimously adopted to the following effect:

"SEC. 6. All vessels from ports in which yellow fever is prevailing, or from ports where other contagious or infectious diseases are reported to exist, shall be detained, for observation, disinfection, purification and fumigation, not less than seventy-two hours, or such length of time as the Board of Health may determine."

Under this rule all vessels liable to its application were detained not less than three days, and in all cases in which the public safety appeared to demand it, they were held from ten to twenty days.

The quarantine officers were directed never to release such vessels in less than three days, and in all cases where the public safety demanded it to hold them subject to the orders of the Board of Health.

The occurrence of the cases of fever on board the bark Excelsior in July led to the extension of the quarantine.

In 1881 the Governor issued his proclamation according to law and in accordance to the recommendations of the Board of Health, that the minimum detention should not be less than seventy-two hours.

This proclamation was without doubt an improvement upon that of 1880; but in accordance with the prediction of the President, who had urged the establishment of the quarantine according to the original act of 1855, the Board was again forced by the demands of the agents of the surrounding States, and certain maritime and railroad interests, to make the period of quarantine detention not less than ten days.

8. In view of the preceding facts developed by a review of the history of quarantine in Louisiana from 1855 to the present time, I most respectfully urge the passage by the General Assembly of acts covering the following subjects:

First—The re-enactment of that portion of the act of 1855 which requires that the period of detention shall be not less than ten days.

Second—The modification of the quarantine fees, so as to conform strictly to the constitution of the United States, and thus place all parties upon an equal footing.

AN ACT to fix and regulate quarantine charges at the Mississippi River Station, to establish a lien and privilege on vessels inspected, in favor of the Board of Health for the same, and to provide for their enforcement and collection by provisional seizure.

SECTION 1. *Be it enacted by the General Assembly of the State of Louisiana*, That the resident physician at the Quarantine Station on the Mississippi River shall require for every inspection and granting certificate the following fees and charges: For every ship, thirty dollars ($30); for every bark, twenty dollars ($20); for every brig, ten dollars ($10); for every schooner, seven dollars and a half ($7 50); for every steamboat (towboats excepted), five dollars ($5): for every steamship, thirty dollars ($30).

SEC. 2. *Be it further enacted, etc.*, That the Board of Health shall have an especial lien and privilege on the vessels so inspected for the amount of said fees and charges, and may collect the same, if unpaid, by suit before any court of competent jurisdiction, and in aid thereof shall be entitled to the writ of provisional seizure on said vessels.

SEC. 3. *Be it further enacted, etc.*, That all laws and parts of laws in conflict with the provisions of this act are hereby repealed, and all laws and parts of laws on the same subject-matter, not in conflict and inconsistent herewith, are continued in full force and effect.

R. N. OGDEN,
Speaker of the House of Representatives.
GEORGE L. WALTON,
President pro tem. of the Senate.

Approved, July 1, 1882.
S. D. MCENERY,
Governor of the State of Louisiana.

A true copy:
WILL A. STRONG, Secretary of State.

RESISTANCE OF QUARANTINE LAWS OF LOUISIANA BY MORGAN'S LOUISIANA AND TEXAS STEAMSHIP AND RAILROAD COMPANY.

The action of certain ship owners and maritime agents in resisting the collection of the quarantine fees established by the act of 1855 for the protection of the State against foreign pestilence, has been fully considered by this board, and a large portion of the report of 1882 has been necessarily consumed with a consideration of those questions which are vital to the protection of New Orleans and the Mississippi Valley.

The following communication was addressed to Attorney General J. C. Egan :

OFFICE BOARD OF HEALTH, STATE OF LOUISIANA.
New Orleans, November 13, 1882.

Hon. J. C. Egan, Attorney General, State of Louisiana :

Sir—I have the honor to enclose a copy of a petition of the Morgan's Louisiana and Texas Railroad Company against this board, No. 7001 of the docket of the Civil District Court for the parish of Orleans, enjoining this board from collecting any fees under the quarantine laws of the State of Louisiana. This suit is one of several brought by different parties, and unless decided before next summer, will seriously embarrass this board in executing the law, by depriving them of the means of maintaining the service. The board designs pushing the matter as rapidly as possible, and their attorney has already filed an answer, and had the case summarily fixed for trial on Monday, November 20, 1882, at which time he hopes to try the case. Immediately on its decision in the lower court, it will be appealed to the Supreme Court of the State and placed on the summary docket; the board hopes for a decision in December or January. Should it be decided adversely to the plaintiffs, it will be taken by writ of error to the Supreme Court of the United States, and the attorney of the board will there endeavor to have its trial advanced, so as to have a final decision before that court adjourns. This can be done under rule 26 of the Supreme Court. The attorney of the board thinks that this can be most *certainly* done by the State of Louisiana making itself a party by intervention or otherwise, and refers us to 16 United States Stat. at Large, 176, 301, 15 Wal., 390; 8 Wal., 159, and United States Act 1870. As the question involved concerns the nullity and non-execution of all the quarantine laws of the State, it seems that the State is immediately and directly a party in interest, as in the event of a final decision, ultimately decreeing the laws of the State to be unconstitutional, or even in case the suit should go over until next winter, and the injunction remain pending the Governor would have to convene the State Legislature in extra session to provide means for the maintenance of the quarantine, or else abandon the system entirely, and leave the State and the whole Mississippi Valley a prey to the ravages of infectious and contagious disease by importation.

I, therefore, would respectfully request you to take proper steps to make the State a party to the suit, in order to effect the contemplated purpose. The attorney of the Board, Colonel F. C. Zacharie, who will hand you this, and more fully explain to you the details of the points at issue, will furnish you with a copy of his opinion thereon, and is prepared to fully attend to the matter, and consult with you, and the Board, as well and will be greatly obliged to you if you render what services you can in the premises. Hoping for an early reply, I am, respectfully,

(Signed) JOSEPH JONES, M. D.,
President Board of Health.

From the following statistics, consolidated under the direction of the President, from the archives of the Board of Health, it is evident that the action of Charles Morgan & Co., in 1874, led to the great reduction of the Quarantine receipts; and it is still further evident that at the present time the receipts from Quarantine are inadequate to its support, in accordance with the organic act of the General Assembly.

There has been and will be a progressive decrease in the Quarantine receipts on account of the increased depth of water at the mouth of the Mis-

sissippi River, and the increase in size, capacity and tonnage of vessels and steamships, and the corresponding diminution in their number.

Thus the number of vessels entering the Mississippi in 1860 exceeded 2000, whilst in 1881 there were but 1000 in round numbers.

No more important question could possibly engage the attention of the Board of Health, the General Assembly of the State and the Congress of the United States, than the support and maintenance of the Mississippi Quarantine.

YEAR.	EXPENDITURES FOR QUARANTINE PURPOSES.					
	At Mississippi Quarantine Station.	At Rigolets Quarantine Station.	At Atchafalaya Quarantine Station.	At the Central Office.	Total Expenditures for Quarantine Purposes.	Total Receipts from all Quarantine Stat'ns
1869	15,019 85	2,941 32	1,474 60	6,254 95	25,690 72	28,545 10
1870	13,201 28	2,543 21	2,259 50	6,679 18	24,683 17	24,910 10
1871	14,285 19	1,940 64	1,308 10	7,546 55	25,080 58	25,119 50
1872	12,402 84	895 35	981 00	6,437 59	20,716 78	21,671 10
1873	13,493 73	1,557 08	699 00	7,103 58	22,853 49	21,961 34
1874	11,557 10	380 85	190 00	7,080 24	19,208 19	20,003 25
1875	9,598 59	1,347 97	1,320 00	13,775 83	26,042 39	13,801 50
1876	14,038 97	662 32	51 80	6,543 10	21,296 19	20.061 17
1877	9,314 71	1,387 66	847 50	6,519 94	18,069 81	15,471 45
1878	13,858 80	929 19	711 99	8,720 17	24,220 15	20,024 50
1879	9,869 21	1,599 23	1,134 49	10,104 89	22,707 82	18,315 25
1880	14,388 91	1,720 17	813 83	8,294 84	25,217 55	22,046 50
1881	17,674 47	1,536 93	690 00	7,372 30	27,273 70	18,555 50
1882*	10,149 39	1,526 95	460 00	7,529 31	19,665 65	13,486 50

For ten months.

OFFICE BOARD OF HEALTH, STATE OF LOUISIANA,
New Orleans, January 3, 1882.

His Excellency, S. D. McEnery, Governor State of Louisiana, Baton Rouge, La.:

Dear Sir—I have the honor to enclose, for the information of your Excellency, the outline of the decision of Judge Monroe, issuing an injunction against the Board of Health, and declaring the quarantine system of Louana, established by the act of 1855, illegal.

The immediate effect of this decision will be to stimulate all maritime men to resist the payment of quarantine fees. The power of this lower court is thus exerted to overthrow the quarantine system of Louisiana. I have directed the attorney of the board to take an immediate appeal to the Supreme Court of Louisiana. In the event that the decision of the lower court is sustained the quarantine system of Louisiana will be practically destroyed, and it will be incumbent upon your Excellency to devise the necessary measures, with the constituted and legal health authorities, for the effectual exclusion of foreign pestilence. In the event that the Supreme Court reverses the decision of the lower court, the attorney of the plaintiff will be, most probably, instructed by C. A. Whitney & Co., to appeal the case for final decision to the United States Supreme Court.

With great respect, I have the honor to remain, your obedient servant,

JOSEPH JONES, M. D.,
President Board of Health, State of Louisiana.

The case of Morgan's Louisiana and Texas Railroad and Steamship Company, versus the Board of Health of the State of Louisiana, No. 8755, was

able argued by the attorney of the board, Col. F. C. Zacharie, and by Judge A. D. White, Assistant Counsel, before the Supreme Court of the State of Louisiana.

The following able and learned decision of the Supreme Court of Louisiana, sustaining the quarantine laws of the State, and upholding and sanctioning the official acts of the Board of Health in maintaining quarantine, and collecting fees for the support of the same was delivered by Associate Justice Fenner, on the twenty-first of January, 1884, in the city of New Orleans.

QUARANTINE FEES—THEY ARE LEGAL EXACTIONS OF THE STATE, IN PAYMENT FOR SPECIAL BENEFITS—THE QUARANTINE LAWS DO NOT INFRINGE THE POWER OF CONGRESS TO REGULATE COMMERCE.

THE MORGAN COMPANY REQUIRED TO PAY THE FEES OF THE BOARD OF HEALTH—HIGHLY IMPORTANT DECISION OF THE SUPREME COURT OF THE STATE OF LOUISIANA.

New Orleans Picayune.]

The following opinion was delivered by Associate Justice Fenner on Monday, January 21:

No. 8755—Morgan's Louisiana and Texas Railroad and Steamship Company vs. The Board of Health of the State of Louisiana. Appeal from the Civil District Court, Parish of Orleans.

The Act No. 69, of 1882, of the General Assembly of the State of Louisiana, provides that "the Resident Physician at the Quarantine Station on the Mississippi River shall require, for every inspection and granting certificate, the following fees and charges: For every ship, $30; for every bark, $20; for every brig, $10; for every schooner, $7 50; for every steamboat (towboats excepted), $5; for every steamship, $30."

By virtue of other provisions of the quarantine laws of the State, it is made the duty of the resident physician, or his assistant, to visit and inspect every vessel entering the port of New Orleans through the Mississippi River. If he finds the vessel free from disease, not in a foul condition, and not from an infected district, he is required to furnish her with a "certificate of health" and allow her to proceed to the city. Vessels in a foul condition or having on board persons suffering or who have suffered during the voyage from contagious, pestilential or infectious diseases, he is required to detain for such time, not less than ten days, as he may deem neccessary, and to employ such means of purification of the vessels as may be directed by the Board of Health, and to require payment therefore from the vessel. Vessels out ten days from infected ports, presenting clean bills of health, not having nor having had sickness on board, and which are not in foul condition, shall be permitted to pass to the city after thorough fumigation by disinfecting agents. Revised Statutes, 3042-3-5.

The practice under these laws is to visit and inspect every vessel, and to require, in every case, the fee prescribed therefor; and in cases where, under the law, the service of disinfection by fumigation is rendered, to require therefor an additional fee of twenty or twenty-five dollars as the estimated expenses thereof.

Plaintiff is the owner of several vessels plying between the port of New Orleans and various other countries. The object of the present suit is to perpetually enjoin the collection of the fees and charges above mentioned, and to restrain the defendant from detaining the plaintiff's vessels because of their non-payment, on the ground that the laws authorizing the same are null and void because they contravene:

1. Article one, section eight, paragraph three of the Constitution of the United States, which provides that "Congress shall have power * * * to regulate commerce with foreign nations, and among the several States, and with the Indian tribes."

2. Article one, section ten, paragraph three, which provides that "No State shall, without the consent of Congress, lay any duty upon tonnage,"

We shall at the outset disembarrass the case of several questions upon which we heard much learned argument, by laying down certain propositions which we consider clearly settled by the Supreme Court of the United States, to whose opinion on such subjects we yield our firm adherence.

1. The laws in controversy are in no sense "inspection laws," and can derive no support from that clause of the Constitution of the United States recognizing the right of the States to pass such laws, and to levy duties and imposts in execution thereof. The inspection, duties and imposts intended by that provision referred exclusively to articles of merchandise, and not to vessels. Gibbons vs. Ogden, 9 Wheat., 203; People vs. Compagnie, 13 Reporter, 326.

2. So far as the exclusive power of Congress to regulate commerce is concerned, that power is not infringed by the laws under consideration, unless the fees and charges imposed thereby are in the nature of a duty on tonnage, in which case they would doubtless violate both the general reservation to Congress of the exclusive power to regulate commerce, and also the special prohibition to the States to lay any duty on tonnage. In other respects, the rights of a State to provide for the health of its people by establishing quarantine laws, and to subject vessels entering its ports to proper regulations as to inspection, detention, purification, etc., although necessarily affecting commerce, is, nevertheless, undisputed, subject, possibly, to the power of Congress to interfere and control it in its discretion. Gibbons vs. Ogden, 9 Wheat., 203; Passenger Cases, 7 How., 414; Peet vs. Morgan, 19 Wall, 581.

3. If the fees and charges complained of be of the nature of a duty on tonnage, the fact that they are levied under quarantine laws would not save them from the prohibition of the Federal Constitution. Such duties cannot be levied without the consent of Congress, and Congress has never consented, but on the contrary, in its acts of 1799, recognizing the existing quarantine laws of the States, it interposed the express *proviso* that nothing herein shall enable any State to collect a duty of tonnage or impost without the consent of the Congress of the United States thereto.

4. If the fees and charges be in the nature of a duty the fact that it is laid on the whole ship, and not at the rate of so much *per ton*, would not of itself exempt it from the Federal prohibition. Steamship Company vs. Poindexter, 3 Wall., 31; State tonnage tax cases, 12 Wall., 218.

This elimination leaves open, on this branch of the case, the solitary question, whether the fees and charges here involved are duties in the sense of the constitution? It is the well established jurisprudence that there are many forced contributions which government may exact from persons and property which are not considered as taxes, duties or imposts, within the meaning or control of constitutional restrictions upon the power to levy the latter. Such are contributions provided for the constructions of public works for the advantage of particular districts, like levees, drainage, pavements, etc., levied on the property with reference to the supposed benefits derived by the property from the works; contributions provided to defray the expenses of building bridges, erecting causeways, or removing obstructions in a water-course, and like the light duty paid by all nations to the Danes, to be paid by such individuals only who enjoy the advantage; and fees or charges for services lawfully rendered, like wharfage, pilotage and portwarden fees, to be paid by those who receive the services. States vs. Navigation Company, 11 Mart. O. S., 324; Crowley vs. Copley, 2 Ann., 329; Lafayette vs. Orphan Asylum, 1 Ann., 1, and etc.

In the first of the cases above quoted, Chief Justice Martin said that the words, "impost, tax on duty," as used in the consitution or laws, must be confined to the idea which they commonly and ordinarily present to the mind: exaction to fill the public coffers, for the payment of the debt and the promotion of the general welfare of the country—and not to contributions as the supposed equivalent of benefits conferred or services rendered, like those above indicated.

It is apparent from the face of the laws here attacked that the fees and charges complained of are demanded as compensation for labor performed, expenses incurred and services rendered directly in connection with the vessels, the necessity for which arises solely from the fact that such vessels, in the exercise of an undoubted right, yet voluntarily and in pursuit of their own interests, choose to seek the port of New Orleans, well knowing that they cannot enter said port without first being inspected, and, if necessary, purified in conformity with laws to that extent unquestionably valid. Can it be said that the rendition of these services, by virtue of which alone the vessel is enabled lawfully, to proceed to her destined port, is not a service to the vessel.

It is said that it cannot be considered as a service, because the vessel does not regard it as such, but rather as a burden, and because she does not voluntarily seek or avail herself of it. As to the first point, the question would seem to be, not whether the vessel regards it as a service, but whether it is a service and whether she ought to regard it as such. It seems the plainest development of the primal duty, *sic utere tuo ut alterum non laedere*, that a vessel should seek and desire the performance of services the object of which is to prevent the chance of her spreading disease and pestilence amongst large populations. She is under the plain obligation, moral as well as legal, to do everything to avoid such risk, and the service which enables her to perform this obligation would seem so be a service to her.

As to the second point that the services are forced and not voluntary, the reliance placed upon the decisions of the Supreme Court of the United States in the wharfage and portwarden cases seems not well founded. In those cases there was no legal duty imposed on vessels to land at the wharves or to receive the services of the portwardens. They had the perfect right to decline these benefits and services and they properly held that a State law exacting contribution for them, whether used or not, was unconstitutional. But had it been the legal duty of vessels to land at a particular place in the port of New Orleans, and had the city provided expensive wharves at such places, it is supposed that she would not have had the right to exact compensation for the facilities thus afforded, although vessels landing at the port would have had no option as to accepting the use of them.

Finally, it is claimed that the services rendered under these quarantine regulations are for the benefit of the people of the city and State, and not for that of the vessel. No doubt that is true. It is equally true that the object of the city in building wharves was to benefit its own people, trade and commerce. We deem it unnecessary to consider more at length the objections which have been forcibly urged against the theory that the services in question are rendered to the vessel in such a manner as to justify the exaction of compensation therefor. What we have said sufficiently expresses our views on the subject, and while the question is not free from difficulty, even to our own mind, we are confirmed in our course by the reflection that it leaves the avenue open for correction of any error which we may commit by appeal to the Supreme Court of the United States, whereas if we should err in the opposite direction, the defendants would not be entitled to that remedy.

The broad proposition of plaintiff, that in the exercise of the right to establish quarantine systems, the States are bound to bear all the expenses thereof, and cannot throw the burden, in any manner, or to any extent, upon commerce, has certainly not yet received the indorsement of the Supreme Court of the United States.

In the passenger cases, Mr. Justice Wayne, summing up, in his separate opinion, his view of what the entire court meant to decide, included, among other propositions, the following: "That the States may, in the exercise of their police power, pass quarantine and health laws, etc., and may, in the exercise of such police power, without violation of the power in Congress to regulate commerce, exact from the owner or consignee of a quarantined vessel, such fees as will pay to the State the cost of detention and purification of the vessel, cargo and apparel of the persons on board."

Nothing in any of the several opinions rendered in the case clashes with this statement or indicates any dissent therefrom. Passenger Cases, 7 How., 414.

In the case of Peete vs. Morgan, strenuously relied on by plaintiff, the court, after recognizing the right of the States to pass quarantine laws, said: "It is evident that the power to establish quarantine regulations cannot be executed without the State possesses the means to raise a revenue for their enforcement, but it is equally evident that the means used for this purpose must be of such a character as the restrictions imposed by the Federal Constitution upon the taxing power of the State authorize."

It cannot be doubted that the court meant to sanction the right of a State, in its quarantine laws, to raise a revenue for their enforcement, in some way connected with their execution. To suppose that the means to raise a revenue referred to as implied in the power to establish quarantine, meant only the ordinary powers of taxation of the State' own citizens and property, would be to accuse the court uttering a mere inanity. We can conceive of no other means which could have been in view, except just such exactions of compensation for services as are provided in these laws of Louisiana.

As far as appears from the statement and opinion in Peete vs. Morgan, the charge there in question was a clear and simple duty on tonnage, levied by the State without any reference to services rendered, and we think it has no application to the instant case, except in the clause above quoted.

We find nothing inconsistent with the foregoing views in the proviso inserted in the the act of Congress of 1799. That was an act empowering and directing the officers of the General Government to conform to and assist in the execution of the quarantine laws of the States. All or most of the seaboard States had such laws, the nature and mode of execution of which must have been known to Congress. Those laws contained provisions authorizing the exaction of fees and charges for inspection, disinfection, etc., entirely similar to those in the laws of Louisiana. For instance the law of South Carolina, passed as early as 1759, forbade vessels bound for Charleston from infected ports from passing Fort Johnson until visited, inspected and certified by one of certain named physicians, and obliged the owner or master to pay such physicians a fee of £7 10s current money, and, moreover, the expense of the boat and hands to carry down such physician to visit the said vessel and to bring him up again to Charleston.

Nothing in the acts of Congress reprobates such charges, and it must be supposed that the proviso forbiding the levy of any duty of tonnage did not refer to charges for services of this character, but was intended to shut out any implication of a consent by Congress to the imposition of tonnage duties proper.

There is nothing in the laws of this State or in their execution, as disclosed by the evidence, indicating the purpose of levying a forbidden tonnage duty under the guise of charges for service The services are shown to be actually rendered, and the charges are not excessive to a degree sufficient to authorize judicial interference. It is proved that the revenue derived therefrom is devoted exclusively to quarantine purposes, and in no year has it been sufficient to defray the quarantine expenses.

We therefore hold that the plaintiff is not entitled to the relief asked.

As we maintain the validity of act 69 of 1882, the constitutional objection to the act of 1870 (Rev. Stat., sec. 3042), on the ground of discrimination between the ports of different States, does not arise, the law in this particular being repealed by the act of 1882.

The claim that the act contravenes article forty-eight or thirty of the Constitution of the State is without foundation. The act is neither local or special, but is of the more general character, intended for the benefit and protection of the entire people of the State.

Neither does it revive or amend any prior law. It is an original and independent statute, repealing such portions of prior laws on the same subject matter as are inconsistent with it.

It is therefore ordered, adjudged and decreed that the judgment appealed from be annulled, avoided and reversed, and it is now adjudged and decreed that the injunction herein granted be now dissolved and that plaintiff's demand be rejected at his cost in both courts.

After a continuous battle, of four years duration, in which the vast maritime interests of the State, and the power and influence of the wealthiest railroad and steamship company in the Southwestern States, were marshalled against the legally constituted health authorities, the Board of Health of the State of Louisiana achieved a memorable and signal victory on the twenty-first of January 1884, in the complete and triumphant vindication of its efforts to exclude foreign pestilence from the Mississippi valley, by the highest legal tribunal of the State of Louisiana.

If the decision of the Supreme Court had been adverse to the Board of Health, the quarantine laws of Louisiana would have been rendered powerless for the exclusion of foreign pestilence. Quarantine must be sustained either by an appropriation from the State government, or from the inspection fees; the General Assembly of Louisiana had made no appropriation for the maintenance of quarantine; therefore if the decision of the Lower Court had been sustained by the Supreme Court of Louisiana, an extra session of the Legislature would have been necessary for the appropriation for the support of the officers and employes, the supply of disinfectants, the maintenance of the hospitals, and the isolation and treatment of seamen and passengers, suffering with contagious and infectious diseases. The actual expenses of an extra session of the Legislature of Louisiana, would have imposed an additional burden upon the taxpayers of the State which would have exceeded the amount now collected for the support of quarantine at least four times; in other words, the expenses of the extra session would have been sufficient to maintain the quarantine system, during a period of four years and longer.

The records of the Board of Health show that the Morgan's Louisiana and Texas Railroad Company is indebted to the State of Louisiana, for quarantine fees, about $14,385; and the Cromwell Steamship Line $8,400; total amount due the State of Louisiana by the Morgan and Cromwell lines, about $22,865.

The decision of the Supreme Court of Louisiana, in case No. 8755, not merely relieved the citizens from the additional expense of an extra session of the General Assembly, but also affirmed the right of the State to over $22,000 dollars, due for unpaid quarantine fees, by the Morgan and Cromwell lines.

The decision of the Supreme Court of Louisiana has confirmed the view held and strenuously advocated by the President of the Board of Health that:

The fees collected by the State of Louisiana from vessels subjected to the quarantine laws are not in the nature of a tax or impost on commerce, but are a just and necessary compensation for the great service rendered commerce in the cleansing and disinfection of the vessels and cargoes, in the care and treatment of the sick by the medical officers of the State, and by the exclusion of foreign pestilence, and the establishment of public confidence, and the maintenance of commerce, which, but for the said quarantine service would be greatly damaged.

Were it not for the execution of the quarantine laws by the Board of Health of the State of Louisiana, the port of New Orleans would be hermetically sealed to commerce during from four to six months every year, and all intercourse with the surrounding States would be closed by the *shotgun quarantine, controlling the river and railroads.*

The decision of the Supreme Court of Louisiana, is of interest and importance to every State and municipal government in the United States of America, for the doctrine is here clearly recognized, that:

The establishment and enforcement of quarantine by individual States is not a regulation of commerce in violation of the provisions of the Federal constitution, but is the legitimate exercise of the POLICE POWERS, *by the individual States which are* INALIENABLE, AND WHICH IN A REPUBLIC, *cannot be surrendered to the* GENERAL GOVERNMENT, *without transforming the sovereign States, into the dependent provinces of a centralized* DESPOTISM.

COMPARATIVE VIEW OF THE MORTALITY OF NEW ORLEANS DURING THE PERIOD OF FOUR YEARS; 1880, 1881, 1882 AND 1883.

RELATIONS OF DISEASE AND DEATHS IN NEW ORLEANS TO RACE, TEMPERATURE, RAINFALL AND MOISTURE—OUTLINE OF THE SANITARY WORK PERFORMED UNDER THE DIRECTION OF THE BOARD OF HEALTH OF THE STATE OF LOUISIANA DURING 1880, 1881, 1882 AND 1883—COMPARATIVE VIEW OF THE DISEASES AND MORTALITY OF THE VARIOUS DISTRICTS OF NEW ORLEANS.

The following tables illustrate :

1. *The population of the city of New Orleans, divided according to race and sex by the United States Census for the year* 1880, *and estimated increase for succeeding years, based upon the ratio of increase between the years* 1870 *and* 1880.

2. *Tabulated statement of the mortality of New Orleans, Louisiana, during the years* 1880 *to* 1883, *inclusive.*

These tables are of value in that they embody data capable of comparision with the vital and mortuary statistics of various European and American cities.

Aside from their scientific value in their relations to ethnological, medical and sanitary science, they possess a material value in the light which they may throw upon the operations of the various foreign and domestic life insurance companies.

POPULATION OF THE CITY OF NEW ORLEANS, LOUISIANA, DIVIDED ACCORDING TO RACE AND SEX, BY UNITED STATES CENSUS FOR THE YEAR 1880, AND ESTIMATED INCREASE FOR SUCCEEDING YEARS, BASED UPON THE RATIO OF INCREASCE BETWEEN THE YEARS 1870 AND 1880.

YEAR.	White.			Colored.			White and Colored.		
	Males.	Females.	Totals.	Males.	Females.	Totals.	Males.	Females.	Totals.
1880	75,693	82,702	158,395	25,247	32,501	57,748	100,940	115,203	216,143
Average	76,072	83,273	159,345	25,493	32,659	58,152	101,565	115,931	217,497
1881	76,450	83,844	160,295	25,740	32,816	58,556	102,190	116,660	218,851
Average	76,837	84,419	161,256	25,993	32,972	58,965	102,830	117,392	220,222
1882	77,224	84,994	162,218	26,246	33,129	59,375	103,470	118,123	221,593
Average	77,605	86,586	163,191	26,501	33,289	59,790	104.106	118,876	222,982
1883	77,986	86,178	164,164	26,756	33,450	60,206	104,742	119,628	224,370
Average	78,369	86,775	165,144	27,017	33,610	60,627	105,386	120,385	225,771
1884	78,753	87,372	166.125	27,277	33,771	61,048	106,030	121,143	227,173

TABULATED STATEMENT OF MORTALITY OF NEW ORLEANS, LOUISIANA, DURING THE YEARS 1880 TO 1883, INCLUSIVE.

Year	Whites.			Colored.			White and Colored.			Death Rate per 1000 Population.									
										Whites.			Colored.			Total.			Total Exclusive of Small-Pox.
	Males.	Females.	Totals.	Males.	Females.	Totals.	Males.	Females.	Totals.	Males.	Females.	Totals.	Males.	Females.	Totals.	Males.	Females.	Totals.	
1880	2050	1587	3637	1003	983	1986	3053	2570	5623	26.87	19.05	22.82	39.34	30.09	34.10	30.03	22.16	25.85	25.85
1881.	2419	1708	4127	1178	1101	2279	3593	2813	6406	31.47	20.23	25.59	45.32	33.36	38.31	34.94	23.96	29.08	29.06
1882.	2104	1478	3582	1225	1115	2340	3329	2593	5922	27.11	17.10	21.88	46.22	33.49	39.14	31.97	21.81	26.60	24 69
1883.	2657	1895	4552	1634	1337	2971	4291	3232	7523	35.18	21.83	27.56	60.47	39.78	49.00	40.71	26 84	33.32	27.71

[A.]

TABULATED EXHIBIT OF MORTALITY FROM SOME OF THE CHIEF FATAL DISEASES IN THE CITY OF NEW ORLEANS DURING THE FOUR YEARS 1880 TO 1883, INCLUSIVE, BY WEEKS.

1880.

WEEK ENDING.	Small-Pox.		Yellow Fever.		Malarial Fevers.		Diarrhœal Diseases.		Phthisis Pulmonalis.		Diphtheria.		Croup.		Bronchitis.		Pneumonia.		Congestion of Brain.		Scarlatina.		Sunstroke.		Measels.	
	w.	c.	w.	c.	w.	c.	w.	c.	w.	c	w.	c.	w.	c.	w.	c.	w.	c.	w.	c.	w.	c.	w.	c.	w.	c.
Jan. 4	...	...	...	...	1	1	5	0	9	8	3	...	4	...	1	...	5	2	...	1	...	...	...	...	...	...
11	...	...	...	...	1	3	3	2	9	8	2	...	...	...	1	1	5	6	...	...	...	...	...	...	...	...
18	...	...	...	...	1	...	2	...	7	3	1	...	...	...	1	...	4	5	3	...	...	...	...	...	...	...
25	...	...	...	...	...	...	2	7	3	2	...	...	1	...	...	2	2	2	1	...	1	...	...	...	...	...
Feb. 1	...	...	...	...	1	1	4	2	9	5	2	1	3	...	3	...	2	4	1	2	...	...	...	...	...	...
8	...	...	...	...	1	...	4	3	12	11	...	...	...	...	2	4	6	4	2	1	...	...	...	...	...	...
15	...	...	...	...	3	1	1	...	14	5	2	...	3	...	3	6	5	2	2	...	...	...	...	...	...	...
22	...	...	...	...	3	3	1	2	6	10	1	...	1	...	...	3	5	4	...	...	...	...	...	...	...	...
29	...	...	...	...	4	...	1	2	7	7	1	...	...	...	4	3	6	6	1	1	1	...	...	...	2	...
Mar. 7	...	...	...	...	1	...	2	4	6	8	2	...	...	...	1	2	3	5	...	...	...	...	...	...	...	...
14	...	...	...	...	...	2	1	2	4	4	1	1	...	...	3	1	6	3	2	...	1	...	...	...	...	...
21	...	...	...	...	...	...	3	...	9	9	...	...	1	...	2	1	4	6	3	...	...	1	...	...	1	1
28	...	...	...	...	8	1	2	2	9	10	...	...	...	...	1	3	5	3	1	...	...	1	...	...	1	...
April 3	...	...	...	...	8	...	2	...	18	9	1	...	1	...	2	...	3	3	2	...	...	...	...	...	1	...
10	...	...	...	...	2	...	3	...	11	6	...	...	...	...	3	1	3	2	...	...	2	...	...	...	4	...
17	...	...	...	...	3	1	2	2	10	6	...	...	...	...	3	3	4	2	1	...	1	...	...	...	3	1
24	...	...	...	...	2	...	2	2	17	8	1	...	1	1	1	4	6	2	...	1	...	...	...	...	6	2
May 1	...	...	...	...	5	1	6	4	9	1	1	...	...	...	2	1	1	2	3	3	...	...	...	...	2	2
8	...	...	...	...	4	1	5	...	11	12	1	...	...	...	3	1	6	4	...	...	2	...	...	...	4	3
15	...	...	...	...	9	4	8	...	6	7	1	...	...	...	...	...	3	3	5	...	1	...	...	...	2	3
22	...	...	...	...	2	2	10	3	7	8	1	...	...	...	2	...	2	4	2	1	...	...	...	...	7	6
29	1	...	...	...	2	1	6	10	12	6	...	1	...	...	...	...	3	1	3	1	2	...	...	...	6	8
June 5	...	...	...	...	5	3	8	7	7	7	4	...	...	...	1	...	3	5	3	1	2	...	...	...	4	3
12	...	...	...	...	9	2	9	6	17	8	4	...	1	...	1	2	3	3	4	1	2	...	...	...	3	2
19	...	...	...	...	6	...	7	11	6	5	...	1	...	...	1	3	4	4	5	...	...	...	1	...	5	2
26	...	...	...	...	4	2	9	2	10	10	...	...	...	...	2	2	1	3	1	...	2	...	...	...	2	2
July 3	...	...	...	...	5	...	2	10	9	1	...	...	1	...	...	...	3	2	1	...	...	...	...	...	1	1
10	...	...	...	...	1	3	6	3	10	2	...	...	...	...	...	...	2	3	3	...	3	...	...	...	...	2
17	...	...	...	...	5	1	1	...	6	5	2	...	1	...	1	1	...	2	1	...	2	1	...	...	2	2
24	...	...	...	...	5	3	5	2	11	7	3	...	...	...	...	...	...	2	...	1	2	1	...	...	...	...
31	...	...	...	...	2	1	2	1	10	6	1	...	...	...	1	...	...	5	2	...	2	...	...	...	1	...
Aug. 7	...	...	...	...	2	3	1	4	2	9	1	1	...	...	...	...	1	...	1	1	1	...	1	...	1	...
14	...	...	...	...	3	5	1	1	8	3	2	...	...	...	...	1	...	3	...	...	2	...	...	...	...	...
21	...	...	...	...	5	2	4	...	9	9	1	...	...	...	1	...	2	1	3	...	1	...	...	...	...	...
28	...	...	...	...	5	4	12	2	6	8	2	...	...	...	...	...	2	1	4	...	...	...	...	...	...	...
Sept. 4	...	...	...	...	11	6	4	2	8	7	1	...	...	1	...	1	2	1	5	2	...	...	...	...	...	...
11	...	...	...	...	7	5	2	...	11	5	...	...	...	...	1	...	2	2	1	...	...	...	...	...	...	...
18	...	...	...	...	14	7	3	2	8	5	1	...	...	...	...	...	5	2	4	2	...	...	...	...	...	...
25	...	...	...	...	8	2	2	...	...	4	...	...	1	...	2	2	1	1	1	1	...	...	...	1	...	...
Oct. 2	...	...	...	...	12	5	5	3	5	7	1	...	...	2	...	5	2	2	3	...	...	...	...	...	...	...
9	...	...	1	...	3	5	2	1	7	8	2	...	...	...	...	...	...	5	1	1	...	...	...	...	...	...
16	...	...	...	...	7	2	5	2	7	6	2	1	...	...	...	...	2	...	2	...	...	...	...	...	...	...
23	...	...	...	...	9	3	3	4	9	2	3	...	1	...	1	...	4	1	1	1	...	...	...	...	...	...
30	...	...	...	...	10	...	6	2	17	4	5	...	2	1	...	...	4	3	6	...	2	...	...	...	...	...
Nov. 6	...	...	...	...	11	4	6	...	13	5	...	...	...	...	2	1	3	...	...	2	...	1	...	...	...	...
13	...	...	...	...	5	2	6	3	18	5	4	...	2	...	4	1	2	2	3	...	1	1	...	...	...	...
20	...	...	...	...	4	2	4	...	12	10	3	...	...	...	2	...	...	3	2	1	1	...	...	...	...	...
27	...	...	...	...	1	3	1	1	20	11	3	...	2	...	5	1	2	...	...	3	2	...	...	...	...	...
Dec. 4	...	...	...	...	5	1	1	2	17	5	...	...	1	...	2	1	4	3	2	...	2	...	...	...	...	...
11	...	...	...	...	4	1	1	2	9	8	2	1	...	...	1	...	2	4	3	1	1	...	...	...	...	...
18	...	...	...	...	1	2	5	1	14	4	5	...	3	...	1	...	2	3	2	...	3	...	...	...	...	...
25	...	...	...	...	3	...	4	1	10	11	2	.	2	1	1	...	4	3	1	2	...	1	...	...	...	...
31	...	...	...	...	2	...	...	3	8	9	3	...	3	...	1	1	7	0	3	2	3	...	...	...	...	...
Total w. and c...	1	...	1	...	235	101	202	125	519	349	78	7	38	4	71	53	158	146	98	33	46	7	2	...	59	40
Total	1		1		336		327		868		85		42		124		304		131		53		2		99	

[B.]

TABULATED EXHIBIT OF MORTALITY FROM SOME OF THE CHIEF FATAL DISEASES IN THE CITY OF NEW ORLEANS DURING THE FOUR YEARS, 1880 TO 1883, INCLUSIVE, BY WEEKS.

1881.

WEEK ENDING	Small-Pox.		Yellow Fever.		Malarial Fever.		Diarrhœal Diseases.		Phthisis Pulmonalis.		Diptheria.		Croup.		Bronchitis.		Pneumonia.		Congestion of Brain.		Scarlatina.		Sun-Stroke.		Measles.	
	w.	c.	w.	c.	w.	c.	w.	c.	w.	c.	w.	c.	w.	c.	w.	c.	w.	c.	w.	c.	w.	c.	w.	c.	w.	c.
Jan. 8	...	...	...	...	2	...	5	..	17	7	3	1	2	1	2	...	5	7	3	3	5	..	...	...	...	...
15	...	...	...	...	3	1	5	1	11	11	2	...	...	...	9	...	10	14	...	...	4	1	...	...	...	...
22	...	...	...	...	...	...	4	3	10	7	4	...	...	1	2	...	2	3	1	1	2	...	...	...	...	...
29	...	...	...	...	2	...	2	..	11	10	5	...	1	...	8	1	9	7	2	1	5	...	...	...	...	...
Feb. 5	...	...	...	...	1	1	1	...	10	5	2	...	...	...	3	2	3	8	3	...	6	...	...	...	...	...
12	...	...	...	...	1	...	5	3	13	8	3	1	1	...	3	2	7	6	3	...	1	1	...	...	...	...
19	...	...	...	...	1	1	6	2	10	8	3	1	...	1	2	3	3	6	3	1	5	...	...	...	...	...
26	...	...	...	...	4	1	2	4	17	5	5	1	2	...	3	2	3	4	1	...	3	1	...	...	3	...
Mar. 5	...	...	...	...	1	1	2	...	5	10	1	...	1	...	...	1	8	3	...	...	7	2	...	...	...	...
12	...	...	...	...	1	1	1	...	17	9	1	1	1	...	7	1	10	11	5	...	9	1	...	...	...	...
19	...	...	...	...	2	...	1	3	9	7	3	1	1	..	1	3	5	8	...	...	8	...	...	...	1	...
26	...	...	...	...	5	3	5	3	21	13	2	...	1	...	3	2	4	5	...	...	8	1	...	...	...	...
April 2	...	...	...	...	6	3	...	...	10	7	1	...	1	...	4	2	6	6	1	...	6	...	...	1	1	...
9	...	...	...	...	1	1	6	...	20	8	...	..	...	...	8	1	9	4	...	...	10	4	...	...	1	1
16	...	...	...	...	3	2	3	1	10	5	...	...	1	...	3	3	3	3	...	...	9	...	...	...	1	...
23	...	...	...	...	8	1	1	2	10	4	2	...	...	...	1	1	3	6	3	...	13	2	...	...	1	...
30	...	1	...	...	5	...	3	2	8	12	2	...	2	...	1	2	4	2	...	3	7	4	...	...	5	...
May 7	...	...	...	...	...	3	13	3	11	8	2	...	...	...	2	...	5	4	3	2	8	4	...	...	1	...
15	1	...	...	...	2	2	10	4	15	8	2	1	...	...	1	...	1	3	5	...	6	4	...	...	3	...
21	...	...	...	...	2	1	22	8	13	8	...	...	...	...	...	...	3	3	2	1	5	1	...	...	...	...
28	...	...	...	...	2	1	24	9	11	13	2	...	...	...	1	...	...	2	2	...	6	3	...	...	1	...
June 4	...	...	...	...	4	2	25	12	9	6	2	1	...	...	1	1	2	4	...	2	4	1	...	..	1	2
11	...	...	...	...	6	4	34	12	7	2	1	...	...	...	2	1	2	2	4	...	2	...	2	...	...	...
18	...	...	...	...	6	...	19	13	11	3	...	...	...	...	1	1	1	1	12	3	6	1	7	...	1	1
25	...	...	...	...	15	4	19	10	6	7	1	1	...	...	...	...	1	...	14	1	3	...	13	4	1	...
July 2	...	...	...	...	6	3	10	7	5	11	...	...	1	...	2	...	1	...	3	2	1	1	1	...	...	1
9	...	...	...	...	5	4	5	6	12	5	2	1	...	...	...	...	...	...	3	3	2	1	1	...	...	...
16	...	...	...	...	4	3	14	3	11	9	1	...	...	...	2	...	...	...	3	1	3	1	3	...	...	...
23	...	...	...	...	7	4	6	5	7	4	1	...	...	...	2	1	1	2	3	...	1	1	...	...	...	...
30	...	...	...	...	19	4	5	7	11	5	...	1	...	...	...	...	4	...	4	3	...	...	1	...	...	...
Aug. 6	...	...	...	...	7	3	...	3	8	10	1	...	...	...	1	2	...	...	1	...	...	...	...	...	...	...
13	...	...	...	...	3	1	7	1	6	8	3	...	...	...	...	...	1	1	1	...	1	1	...	...	...	...
20	...	...	...	...	6	4	7	5	12	4	3	1	...	...	...	...	1	1	1	...	1	...	...	...	...	...
27	...	...	...	...	15	2	5	3	5	9	...	...	...	1	...	...	...	...	3	1	...	...	...	...	...	...
Sept. 3	...	...	...	...	12	8	6	3	9	7	2	2	...	...	...	...	2	...	1	1	...	...	...	...	...	...
10	...	...	...	...	6	4	7	4	3	8	...	...	...	...	...	1	1	3	1	1	...	...	...	...	...	...
17	...	...	...	...	7	6	6	2	9	10	2	...	...	...	1	2	1	...	1	...	...	...	...	...	...	...
24	...	...	...	...	7	10	5	3	5	5	...	...	...	...	3	1	5	1	...	...	...	...	...	...	...	...
Oct. 1	...	...	...	...	8	8	3	6	8	5	...	...	...	...	1	1	1	1	2	1	...	...	...	...	...	...
8	...	...	...	...	10	5	5	3	4	6	...	...	1	...	1	2	2	1	3	1	1	...	...	...	...	...
15	...	...	...	...	9	2	3	1	6	7	2	...	...	...	1	1	3	1	5	...	1	...	...	...	...	...
22	...	...	...	...	8	3	5	1	13	4	1	...	...	...	1	1	...	...	3	...	...	...	...	...	...	...
29	...	...	...	...	3	2	11	4	8	11	1	1	...	...	1	1	2	2	2	...	...	...	...	...	...	...
Nov. 5	...	...	...	...	6	2	10	2	7	9	2	...	...	...	...	...	1	2	1	1	...	...	...	...	...	...
12	...	...	...	...	8	5	10	6	8	10	2	...	3	...	1	2	1	2	...	...	1	...	...	...	...	...
19	...	...	...	...	5	5	5	5	11	7	...	...	...	...	...	5	1	5	...	...	...	1	...	...	...	...
26	...	...	...	...	5	2	5	5	8	9	1	...	...	...	1	2	5	4	1	...	...	...	...	...	...	...
Dec. 3	...	...	...	...	8	...	9	2	9	9	1	...	1	...	1	...	2	4	2	...	1	...	...	...	...	...
10	...	1	...	...	2	...	4	4	9	5	...	...	1	...	3	1	2	2	3	...	...	...	...	...	...	...
17	...	...	...	...	2	..	6	1	12	7	1	...	1	...	3	2	3	4	...	1	1	...	...	...	...	...
24	...	1	...	...	4	5	7	2	10	9	1	...	1	...	2	1	4	11	3	1	...	...	...	...	...	...
31	1	...	...	...	4	1	7	...	4	4	...	...	...	...	4	1	5	2	1	...	1	...	...	...	...	...
Total w. and c.	3	2	...	...	267	129	391	189	512	388	76	15	23	4	99	55	158	169	117	36	160	37	28	4	21	5
Total	5		—		396		580		900		01		27		154		327		153		197		32		26	

[C.]

TABULATED EXHIBIT OF MORTALITY FROM SOME OF THE CHIEF FATAL DISEASES, IN THE CITY OF NEW ORLEANS, DURING THE FOUR YEARS, 1880 TO 1883, INCLUSIVE, BY WEEKS.

1882.

WEEK ENDING	Small-Pox.		Yellow Fever.		Malarial Fevers.		Diarrhœal Diseases.		Phthisis Pulmonalis.		Diphtheria.		Croup.		Bronchitis.		Pneumonia.		Congestion of Brain.		Scarlatina.		Sun-Stroke.		Measles.	
	w.	c.	w.	c.	w.	c.	w.	c.	w.	c.	w.	c.	w.	c.	w.	c.	w.	c.	w.	c.	w.	c.	w.	c.	w.	c.
Jan. 7	0	1	0	0	5	1	7	0	9	8	1	0	2	0	3	2	1	4	0	0	1	0	0	0	0	0
14	0	0	0	0	4	1	5	1	9	3	0	0	1	0	4	0	3	5	2	0	0	0	0	0	0	0
21	1	0	0	0	6	2	1	0	9	8	2	0	1	0	1	2	2	1	1	0	1	0	0	0	0	0
28	0	4	0	0	1	2	4	4	8	11	0	0	2	0	1	2	3	6	1	0	1	0	0	0	0	0
Feb. 4	0	0	0	0	2	3	5	4	15	10	0	0	1	0	2	2	1	1	0	0	1	0	0	0	0	0
11	0	2	0	0	1	4	5	1	17	2	0	0	1	0	2	1	0	1	0	0	1	0	0	0	0	0
18	1	3	0	0	5	0	4	2	12	16	1	0	4	0	1	1	2	4	1	1	2	0	0	0	0	0
25	1	2	0	0	0	1	1	0	10	6	0	0	0	1	0	0	2	1	1	3	3	0	0	0	0	0
Mar. 4	1	1	0	0	1	2	1	2	8	11	0	0	0	0	2	1	1	3	1	2	1	0	0	0	0	0
11	1	5	0	0	1	1	1	0	8	6	0	0	0	0	2	1	4	6	1	0	0	0	0	0	0	0
18	5	19	0	0	0	1	2	2	11	8	0	0	0	0	0	1	2	2	2	1	1	1	0	0	0	0
25	3	12	0	0	3	2	1	0	9	7	2	0	1	0	3	0	2	4	4	1	0	0	0	0	0	0
April 1	3	14	0	0	2	0	1	0	6	8	2	0	0	0	2	0	0	4	0	0	0	0	0	0	0	0
8	5	12	0	0	2	3	9	2	8	2	2	0	1	0	1	2	2	4	2	0	0	0	0	0	0	0
15	8	9	0	0	2	6	12	4	6	9	0	0	0	0	1	4	3	3	3	0	1	0	0	0	0	0
22	4	14	0	0	6	1	5	2	11	8	1	0	1	0	1	1	1	3	3	0	1	0	0	0	0	0
29	5	11	0	0	1	3	12	4	9	7	2	0	2	0	1	0	0	4	1	2	0	0	0	0	0	0
May 6	4	11	0	0	2	2	11	3	11	8	0	0	0	0	0	0	3	0	1	0	1	0	0	0	0	0
13	3	12	0	0	4	2	8	7	8	6	1	0	1	0	1	2	2	2	0	0	0	0	0	0	0	0
20	6	17	0	0	5	2	3	6	11	7	0	0	0	0	1	0	1	2	1	0	1	1	0	0	0	0
27	4	6	0	0	6	5	11	5	12	4	0	0	0	0	1	4	1	3	1	2	2	0	0	0	0	0
June 3	4	12	0	0	9	3	6	3	4	9	2	0	1	0	0	5	1	1	0	1	0	0	0	0	0	0
10	10	15	0	0	8	4	6	5	10	1	0	1	0	0	2	1	1	1	2	0	1	0	0	0	0	0
17	3	12	0	0	5	7	2	4	9	6	1	0	0	0	0	0	2	2	1	0	0	0	1	0	1	0
24	4	8	0	0	8	9	9	0	14	8	2	0	1	0	0	1	1	1	0	0	1	0	2	0	1	0
July 1	2	7	1	0	5	5	8	6	12	3	1	0	0	0	2	1	1	2	1	2	0	0	1	0	0	0
8	6	4	0	0	4	2	6	7	9	7	2	0	0	0	0	2	2	2	1	0	2	0	0	0	0	0
15	3	1	0	0	3	4	2	4	11	5	0	0	0	0	0	3	1	0	0	0	2	0	1	0	0	0
22	3	7	1	0	3	1	2	2	9	3	0	0	0	0	2	1	0	2	0	0	2	1	0	0	0	0
29	0	3	0	0	6	2	6	0	11	7	0	0	0	0	3	1	4	1	2	1	3	0	0	0	0	0
Aug. 5	2	4	1	0	5	3	8	2	9	6	0	1	0	0	1	0	1	0	3	0	0	0	0	0	0	0
12	1	4	0	0	3	2	8	1	5	8	0	0	0	0	1	1	0	2	1	0	1	0	0	0	0	0
19	2	2	1	0	7	0	7	1	7	9	0	1	1	0	0	1	1	0	2	0	1	0	0	0	0	0
26	2	3	0	0	8	3	1	2	6	12	0	0	0	0	1	2	0	0	1	0	1	1	0	0	0	0
Sept. 2	0	5	0	0	12	4	6	1	13	2	0	0	0	0	1	2	0	1	1	1	0	0	0	0	0	0
9	0	4	0	0	2	6	2	5	8	5	1	0	0	0	0	1	0	2	0	0	1	0	0	0	0	0
16	1	1	0	0	3	3	2	1	5	9	0	0	0	0	0	1	1	0	0	0	0	0	1	0	0	0
23	0	2	0	0	8	4	4	1	10	4	1	0	1	0	0	0	1	1	0	0	0	0	0	0	0	0
30	0	3	0	0	13	2	5	2	6	4	1	0	0	0	1	1	2	2	0	0	0	0	0	0	0	0
Oct. 7	0	2	0	0	12	1	2	0	6	1	2	0	2	0	2	3	1	0	0	0	1	0	0	0	0	0
14	1	6	0	0	16	2	5	2	17	6	1	0	1	0	0	2	0	3	2	0	0	0	0	0	0	0
21	0	4	0	0	10	2	1	2	12	6	1	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0
28	0	3	0	0	9	8	6	9	2	6	7	1	0	0	0	0	0	1	0	0	0	1	0	0	0	0
Nov. 4	0	2	0	0	0	2	5	6	4	6	7	0	0	1	0	1	1	4	2	1	0	0	0	0	0	0
11	0	1	0	0	11	1	8	3	10	10	1	0	1	0	2	1	0	1	0	2	0	0	0	0	0	0
18	0	1	0	0	6	3	8	6	8	6	1	0	0	0	7	0	2	3	0	0	2	0	0	0	0	0
25	0	1	0	0	4	4	7	1	11	8	0	0	0	0	4	1	6	4	3	1	0	0	0	0	0	0
Dec. 2	3	4	0	0	8	1	9	4	16	6	1	0	0	0	2	2	2	3	0	0	1	0	0	0	1	0
9	0	6	0	0	5	5	11	4	11	6	0	0	1	0	4	3	7	2	2	0	0	0	0	0	0	0
16	5	4	0	0	4	2	7	2	15	3	2	0	0	0	2	1	7	2	0	0	2	0	0	0	0	0
23	4	9	0	0	7	4	2	0	10	13	0	0	1	0	7	1	8	0	3	0	0	0	0	0	0	0
30	5	4	0	0	5	4	2	2	10	7	2	2	1	0	4	2	8	5	1	0	1	0	0	0	0	0
Total w. and c.	116	299	4		271	148	278	130	507	350	37	5	30	1	76	64	106	107	53	20	40	5	6		3	
Total	415		4		419		408		857		42		31		140		213		73		45		6		3	

[D.]

TABULATED EXHIBIT OF MORTALITY FROM SOME OF THE CHIEF FATAL DISEASES IN THE CITY OF NEW ORLEANS DURING THE FOUR YEARS 1880 TO 1883, INCLUSIVE, BY WEEKS.

1883.

WEEK ENDING	Small-Pox.		Yellow Fever.		Malarial Fever.		Diarrhœal Diseases.		Phthisis Pulmonalis.		Diphtheria.		Croup.		Bronchitis.		Pneumonia.		Congestion of Brain.		Scarlatina.		Sun-Stroke.		Measles.	
	w.	c.	w.	c.	w	c.	w.	c.	w	c.	w.	c.	w.	c.	w.	c.	w.	c.	w.	c.	w.	c.	w.	c.	w.	c.
Jan. 6	6	5	...	..	6	...	7	2	14	3	1	...	1	...	3	1	6	5	...	2	1	1	...	...	...	...
13	3	10	...	...	2	...	4	3	1	2	1	...	...	...	1	2	9	5	2	1	1	...	...	...	...	...
20	7	18	...	...	4	...	7	6	11	2	...	...	...	...	2	3	12	4	1	...	...	...	...	...	...	...
27	4	9	...	...	2	2	2	6	10	4	1	...	1	...	1	1	4	6	...	...	1	...	...	...	...	...
Feb. 3	12	21	...	...	4	1	6	3	9	8	3	...	1	...	5	4	6	5	1	...	2	...	...	...	...	...
10	13	18	...	...	4	7	3	2	15	5	2	...	...	...	2	2	7	4	...	1	...	...	...	...	...	...
17	10	11	...	...	6	1	...	1	15	16	1	...	...	...	4	1	8	6	1	...	...	...	...	...	...	...
24	10	30	...	...	2	...	3	...	11	2	2	...	...	...	...	...	4	5	1	1	1	1	...	...	...	...
Mar. 3	10	17	...	...	3	...	2	...	7	5	2	...	...	...	1	4	1	3	...	...	2	...	...	...	1	...
10	7	17	...	...	3	3	4	2	14	8	1	...	1	...	1	3	6	6	...	1	1	1	...	...	...	...
17	17	39	...	...	4	5	2	3	13	8	...	1	1	...	2	2	4	5	1	...	...	...	...	...	...	...
24	25	40	...	...	4	3	3	1	13	3	2	...	...	...	3	...	9	7	2	1	1	...	...	...	...	...
31	20	49	...	...	4	4	2	...	15	4	1	...	...	...	2	4	13	6	4	...	2	...	...	...	...	...
April 7	32	54	...	...	2	2	1	1	8	6	...	...	1	...	1	4	4	4	1	...	2	...	...	...	...	...
14	32	45	...	...	5	1	4	...	11	7	1	...	1	...	...	1	4	4	2	1	...	...	...	...	...	...
21	18	28	...	...	1	1	4	3	5	5	1	...	...	...	1	2	3	5	2	...	1	2	...	...	...	...
28	17	28	...	...	3	4	6	...	6	9	1	...	...	...	2	...	7	1	1	4	...	...	...	...	...	...
May 5	14	20	...	...	3	4	3	...	5	6	...	...	...	...	1	1	3	3	...	...	...	...	...	...	...	...
12	13	17	...	...	4	1	5	7	12	6	...	...	...	1	...	2	2	3	...	1	...	...	...	...	1	...
19	28	24	...	...	3	4	8	3	5	6	1	...	1	...	1	1	3	2	1	2	1	...	...	...	...	...
26	21	20	...	..	7	1	10	3	9	7	...	1	...	...	...	2	3	3	3	...	1	...	...	...	1	...
June 2	13	27	...	...	1	3	8	6	11	5	1	...	...	...	4	...	3	3	2	1	...	...	...	...	...	...
9	12	33	...	...	9	2	10	3	9	1	...	...	...	...	2	...	2	2	...	...	...	...	...	...	1	...
16	17	27	...	...	4	2	11	5	5	7	...	...	...	...	...	1	...	2	3	...	2	...	2	...	3	...
23	9	19	...	...	14	1	1	...	9	6	...	...	...	...	1	1	3	2	2	...	1	...	...	...	2	2
30	9	8	...	...	4	7	4	1	12	5	2	...	...	...	1	...	1	1	...	...	...	...	...	...	...	...
July 7	10	7	...	...	3	4	6	1	6	4	2	...	...	...	...	...	...	1	...	1	...	...	...	...	1	...
14	11	6	...	...	4	4	3	1	8	8	1	...	1	...	...	...	1	...	3	...	...	1	...	...	1	...
21	10	13	...	...	7	5	1	4	12	5	1	1	...	...	2	...	...	...	3	...	...	...	1	1	1	...
28	11	10	...	...	12	4	5	3	8	6	1	...	...	...	...	1	2	...	3	1	...	...	...	...	...	...
Aug. 4	4	9	...	...	3	5	8	1	13	10	1	...	...	...	2	1	...	1	2	1	1	...	2	...	...	...
11	6	10	...	...	8	3	3	...	8	8	1	1	1	...	2	...	1	...	5	...	2	...	...	...	1	...
18	12	7	...	...	6	1	1	2	9	5	...	1	...	...	2	...	2	1	3	2	1	...	...	...	...	...
25	5	7	...	..	11	2	6	1	13	6	...	...	...	...	...	1	..	2	2	...	1	...	...	...	...	...
Sept. 1	7	10	...	...	8	3	7	...	3	8	...	...	...	...	1	...	3	1	4	...	...	...	...	...	...	...
8	4	4	...	...	14	3	2	3	7	6	2	...	...	...	3	2	3	...	...	...	...	...	...	...	...	...
15	3	8	...	...	11	3	5	1	10	15	1	...	...	...	2	...	6	...	...	1	...	...	...	...	...	...
22	2	8	...	...	9	6	4	3	13	10	...	1	2	...	...	2	6	1	1	1	1	...	...	...	...	...
29	1	5	...	...	9	7	6	2	6	5	1	2	...	...	2	4	...	...	4	...	...	...	...	...	...	...
Oct. 6	3	3	...	...	20	6	7	4	7	6	...	...	...	...	4	...	3	3	1	1	...	...	...	...	...	...
13	1	2	...	...	8	5	6	2	9	10	1	1	...	...	5	1	...	2	2	...	...	...	...	...	...	...
20	1	2	...	...	10	4	4	2	8	7	1	...	...	...	...	...	2	3	1	...	...	...	...	...	...	...
27	2	4	...	...	8	3	10	4	6	6	...	1	1	...	2	...	2	1	4	...	1	...	...	...	...	1
Nov. 3	...	3	...	...	6	3	5	3	12	10	1	1	1	...	2	1	5	2	2	...	1	...	...	...	...	...
10	4	4	1	...	10	6	15	6	11	14	...	...	...	...	1	1	6	2	2	...	2	...	...	...	...	...
17	1	4	...	...	13	1	15	6	13	9	1	...	...	...	4	4	4	2	1	1	1	...	...	...	...	...
24	7	3	...	...	7	2	7	3	9	7	2	1	1	1	5	2	1	2	4	...	...	...	...	...	...	...
Dec. 1	3	2	...	...	5	3	12	4	11	14	3	...	...	...	5	2	3	1	...	...	1	...	...	...	...	...
8	2	1	...	...	5	1	9	4	6	10	1	...	1	...	11	1	8	2	1	...	...	...	...	...	...	...
15	1	3	...	...	8	...	8	1	12	7	1	...	1	...	2	...	10	7	2	1	...	1	...	...	1	...
22	1	4	...	...	8	3	16	1	5	7	2	...	...	...	1	2	6	4	1	...	...	...	...	...	...	...
29	2	...	...	...	7	5	9	2	12	4	5	...	1	...	1	2	3	4	2	...	1	...	...	...	...	1
31	...	...	...	...	2	...	1	...	4	1	...	...	...	...	...	...	2	2	1	...	...	...	...	...	...	...
Total w. and c.	493	773	1	...	330	151	301	126	505	354	54	12	18	2	100	69	206	146	84	20	3	7	4	1	14	4
Total	1266		1		481		427—		859		66		20		169		352		110		40		5		18	

[E.]

TABLE SHOWING TOTAL MORTALITY BY WEEKS DURING THE YEARS 1880 TO 1883 INCLUSIVE.

1880.							1881.						
Week Ending.	Mortality.			Rate per 1000.			Week Ending.	Mortality.			Rate per 1000.		
	w.	c.	Total	w.	c.	Total		w.	c.	Total	w.	c.	Total
Jan. 4	76	34	110	25.49	32.14	27.24	Jan. 8	89	41	129	25.25	32.80	27 24
11	55	35	90	18.45	33.09	22.33	15	90	55	145	29.62	50.17	34·90
18	65	32	97	21 15	30.25	24.04	22	61	37	98	20.07	33.75	23·59
25	43	33	76	14.30	31.20	18.82	29	95	47	142	31.26	42.87	34·18
Feb. 1	61	32	93	20.46	30.25	23.03	Feb. 5	68	42	110	22·40	38.31	26·48
8	68	54	122	22 81	51.05	30.22	12	79	39	118	26.00	35.57	28·40
15	72	30	102	24.15	28.36	25.26	19	78	44	122	25 67	40.14	29·37
22	51	37	88	17.11	24.22	21.76	26	82	39	121	26.98	35.58	29·13
29	68	41	109	22.81	38.76	26.99	Mar. 5	55	39	94	18.10	35.58	22·63
Mar. 6	46	36	82	15.43	23.27	20.30	12	93	47	140	30.60	42.87	33·70
13	45	33	78	15.09	31.20	19.31	19	80	41	121	26.33	37.40	29·13
21	54	31	85	18.28	29.30	21.04	26	87	60	147	28 63	54.73	35·39
28	65	44	109	21.15	41.60	26.99	April 2	60	49	109	19.74	44.70	26·24
April 3	77	35	112	25.66	33.09	28.00	9	86	45	131	28.30	41.05	31·53
10	72	28	100	24.15	26.47	24.76	16	71	42	113	23.36	38.31	27·20
17	81	33	114	27.17	31.20	28.22	23	81	32	113	26.65	29.19	27·20
24	69	33	102	22 98	31.20	25.25	30	89	47	136	29.29	42 73	32·74
May 1	76	35	111	25.49	33.09	27.50	May 7	85	52	137	27.97	46.62	32·98
8	74	50	124	25.15	47.23	30.70	14	113	47	160	37.58	42.13	38·51
15	81	45	126	27.17	42.55	31.20	21	102	55	157	33.56	50.17	37·79
22	86	55	141	28.85	52.00	34.92	28	110	55	165	36.20	50.17	39·72
29	88	50	138	29.52	47.23	34.17	June 4	105	63	168	34.55	56.48	40.44
June 5	97	53	150	32.54	50.10	37.14	11	119	51	170	40.12	45.72	39.16
12	118	48	166	39.58	45 34	41.10	18	135	54	189	44.32	48.61	45.47
19	70	44	114	23.48	41.60	28.22	25	136	50	186	44.65	45.01	44.74
26	71	44	115	23.65	41.60	28.48	July 2	79	48	127	25.93	43.21	30.55
July 3	73	39	112	24.98	26 11	27.73	9	92	50	142	30.20	45.01	34.16
10	66	33	99	21.32	31.20	24.51	16	82	43	125	26.92	38.71	30.07
17	68	32	100	22.81	30.25	24.76	23	75	34	109	24.22	30.60	26.22
24	60	33	93	20.63	31.20	23.02	30	97	41	138	31.84	36.91	33.20
31	74	29	76	25.15	27.42	18.28	Aug. 6	53	40	93	17.40	36.01	22.37
Aug. 7	41	48	89	13.96	45.34	21 04	13	73	28	101	23.96	25.20	24.29
14	47	25	72	15.60	23.63	17.33	20	80	43	123	26.27	38.71	20.59
21	71	36	107	23.65	33.27	25.75	27	73	38	111	23.96	34.20	26.77
28	65	37	102	21.15	34.22	24.55	Sept. 3	67	45	112	21.99	40.51	27.66
Sept. 4	62	40	102	20.80	38.30	24.55	10	53	41	94	17.40	36.91	22.61
11	57	33	90	18.64	30.10	21.66	17	55	38	93	18.05	34.20	22.37
18	76	51	127	24.85	46.49	30.57	24	58	41	99	19.04	36.91	23.81
25	72	32	104	23.54	29.19	25.03	Oct. 1	56	43	99	18.38	38.71	23.81
Oct. 2	71	32	103	23.22	29.19	24.79	8	66	35	101	21.67	31.50	24.30
9	65	42	107	21.25	38.31	25.75	15	64	26	90	21.01	23.40	21.65
16	68	28	96	22.23	25.54	23.11	22	77	31	108	25.28	27.91	25.98
23	73	31	104	23.87	28.28	25.03	29	66	45	111	21.67	40.51	26.70
30	89	26	115	29 10	23.71	27.68	Nov. 5	64	29	93	21.01	26.10	22.37
Nov. 6	87	34	121	28.45	31.01	29.12	12	71	60	131	23.31	54.01	31.51
13	86	37	123	28.12	33.75	29.61	19	62	52	114	20.35	46. 1	27.42
20	66	46	112	21.58	41.96	26.96	26	61	51	112	20.03	45.91	26.90
27	84	47	131	27.48	42.87	31.53	Dec. 3	84	52	136	27.58	46.91	32 72
Dec. 4	71	27	98	23.22	24.63	23.59	10	69	33	102	22.65	29.70	24.54
11	49	36	85	16.02	32.84	20.46	17	70	37	107	22.98	33. 1	25.74
18	79	28	107	25.83	25.54	25.75	24	67	52	119	21.99	46.81	28.63
25	53	45	98	17.33	41.05	23.59	31	65	30	95	21.34	27. 0	22.85
31	66	43	109	25.32	40.02	30.78							
							Totals	4127	2279	6406	25.79	38.45	29.31
Totals	3637	1986	5623	22.96	34.38	26.01							

[E—Continued.]

TABLE SHOWING TOTAL MORTALITY BY WEEKS DURING THE YEARS 1880 TO 1883, INCLUSIVE.

1882.							1883.						
Week Ending.	Mortality.			Rate per 1000.			Week Ending.	Mortality.			Rate per 1000.		
	w.	c.	Total	w.	c.	Total		w.	c.	Total	w.	c.	Total
Jan. 7	81	49	130	26.59	44.11	31.27	Jan. 6	116	47	163	37 26	41.27	38.25
14	60	36	96	19.69	32.41	23 09	13	81	39	120	25.74	33.82	27.91
21	61	38	99	20.02	34.21	23 81	20	101	57	158	49.44	36.75	32.10
28	57	50	107	18.71	45.01	25.76	27	63	53	116	20.02	45.97	26.98
Feb. 4	59	39	98	19.37	35.11	23.57	Feb. 3	102	69	171	32.42	59.85	39.77
11	60	28	88	19.69	25 20	21.12	10	93	57	150	29.56	49.44	34.89
18	67	49	116	21.99	44 11	27.98	17	96	51	147	30.51	44.24	34.19
25	70	31	101	22.32	27.90	24.30	24	77	67	144	24.47	58.12	33 49
Mar. 4	64	42	106	21.01	37.81	25.50	Mar. 3	71	53	124	22.57	45.97	28.84
11	59	37	96	19.37	33.31	23.11	10	71	74	145	22.56	64.18	33.72
18	60	54	114	20.02	47.71	27.42	17	80	92	172	25.42	78 80	42.56
25	61	48	109	20.03	43·21	26.22	24	104	75	179	33.05	65.05	41.63
Apr. 1	50	53	103	16.41	47.71	24.78	31	95	93	188	30 19	80.67	43.73
8	69	55	124	22.65	40.51	29.83	Apr. 7	102	94	196	32.42	81.54	45.59
15	69	53	122	22 65	47.71	29.35	14	89	86	175	28.28	74.59	41.05
22	83	56	139	27.25	50.41	33.44	21	81	72	153	25 73	62.45	35.58
29	75	55	130	24.62	49.51	31.27	28	85	70	155	27.01	60.72	35.60
May 6	78	48	126	25.61	43 21	30.31	May 5	65	54	119	20 66	46.84	27.68
13	60	54	114	19 70	48.61	27.42	12	70	65	144	25.11	56.38	33·49
20	79	58	137	25.93	52.21	32.96	19	100	67	167	31 78	58.11	38.84
27	78	68	146	25 61	61 21	35.12	26	103	60	163	32.73	52.04	37.91
June 3	74	60	134	24.29	54.02	32.24	June 2	84	71	155	26.69	61.58	35.60
10	82	51	133	26.92	45 91	31 99	9	90	65	155	28 60	56.38	36.05
17	69	57	126	22.65	51.31	30 31	16	107	69	176	34.00	59.85	45.41
24	92	57	149	30.26	51.31	35.84	23	104	54	158	33.05	46 84	36 75
July 1	76	43	119	24 95	38.71	28 63	30	77	40	117	24 47	26 02	27.21
8	62	40	102	20.35	36 01	24.54	July 7	75	41	116	23.82	35 56	26.98
15	62	43	105	20.35	38.71	25.26	14	79	38	117	25.11	32 96	27.21
22	56	39	95	18.38	35.11	22.85	21	82	58	140	26.06	50.31	32.56
29	78	33	111	25.61	29.71	26.70	28	95	45	140	30.19	39.03	32.56
Aug. 5	59	37	96	19.37	33.31	23.09	Aug. 4	83	55	138	26.38	47.71	32.09
12	49	45	94	16.08	40.51	22 66	11	77	48	125	24.47	41.63	29 07
19	68	36	104	22.32	32.41	25.02	18	74	46	120	23.52	39.90	27 91
26	51	47	98	16.74	42.31	23.57	25	73	43	116	23 20	37.30	26.96
Sep. 2	74	39	113	27.18	24.29	35.11	Sept. 1	63	48	111	20.02	41.64	25.82
9	49	46	95	16.08	41.41	22.85	8	72	37	109	22.88	32.09	25 35
16	42	32	74	13 49	28.09	17.40	15	76	54	130	24.15	46.84	30 24
23	62	35	97	19 91	30.73	22.75	22	86	51	137	27 33	44.24	31 86
30	66	30	96	21.20	26.34	22.51	29	81	57	138	25 74	49.44	32.09
Oct. 7	64	31	95	20.56	27.22	22.23	Oct. 6	92	55	147	21.39	47.71	34.19
14	94	43	137	30.19	37.75	32.13	13	90	45	135	28.66	39 03	31.40
21	61	42	103	19.59	36.87	24.16	20	71	43	114	22.56	37.30	26.51
28	64	46	110	20.56	40.39	25.80	27	84	46	130	26 98	39 90	30.23
Nov. 4	59	47	106	18.98	41.00	24.87	Nov. 3	88	58	146	27 93	52.03	34.16
11	83	36	119	26.66	31.61	27.92	10	114	53	167	36.23	45.97	38.84
18	69	43	112	22.16	37.76	26 28	17	112	51	163	35.59	44.23	37.91
25	76	45	121	24.41	39.51	28.39	24	99	56	155	31.11	48.57	36.05
Dec. 2	85	51	136	27.31	44.77	31.91	Dec. 1	97	50	147	30 83	43 37	34 19
9	84	47	131	26.98	41.27	30 74	8	91	50	141	28.92	43 37	32.79
16	88	38	126	28.27	33.37	29.57	15	96	49	145	30 51	42.50	33.72
23	79	41	120	25 38	36.00	28.14	22	93	44	137	29.55	38.16	31.86
30	84	51	135	26.98	44.78	31.68	29	97	53	150	30.83	45.97	34.89
Total	3582	2340	5922	21.89	39.03	26.45	Total	4552	2971	7523	26.62	47.16	32.15

Note 1—The *rate* of mortality at bottom of table is calculated for the entire year independently of the separate weekly reports.

Note 2—The tabulation embraces the entire mortality for the years 1880 and 1881. In the year 1882, one day's mortality is omitted, and in 1883 two days.

Note 3—The rate of mortality for the year 1883 is calculated upon the estimated population, based upon the *ratio* of increase between the years 1870 and 1880 by United States census.

MORTALITY OF NEW ORLEANS, LOUISIANA, DURING 1880, 1881, 1882 AND 1883, CLASSIFIED ACCORDING TO DISTRICTS, MONTHS, RACES AND PRINCIPAL DISEASES.

TABLE ILLUSTRATING DEATHS IN THE FIRST DISTRICT, CITY OF NEW ORLEANS, DURING THE YEAR 1880.

DISEASES.		January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
Yellow Fever		....	....	....	....	....	....	1	....	....	1	....	....	2
Malarial Fevers		....	2	3	4	7	6	6	7	13	15	6	5	74
Typhoid Fever		1	....	....	1	....	....	1	....	....	2	2	....	7
Scarlet Fever		1	1	4	1	....	3	5	1	....	1	2	....	19
Measles		....	....	....	2	8	7	3	....	....	....	....	....	20
Small-pox		....	....	....	....	....	....	....	....	....	....	....	....	....
Diphtheria		....	1	1	1	1	2	....	....	....	2	4	1	13
Diarrhœal Diseases		8	2	3	3	10	14	7	6	4	7	4	4	72
Congestion of Brain		2	3	2	3	4	3	3	3	5	6	3	3	40
Convulsions		2	3	3	5	12	6	5	5	3	5	4	2	55
Phthisis Pulmonalis		21	15	27	22	21	17	22	15	6	12	25	19	222
All other causes		94	87	64	77	86	76	63	51	58	68	83	62	869
Total Number Deaths		129	114	107	119	149	134	116	88	89	119	133	96	1393
Number Deaths.	White.	86	71	74	74	82	84	79	52	58	78	90	56	884
	Colored.	43	43	33	45	67	50	37	36	31	41	43	40	509
Death rate per 1000 Inhabitants per annum.	Yellow Fever	....	....	....	....	....	....	0.02	....	....	0.02	....	....	0.05
	Malarial Fever	....	0.41	0.62	0.83	1 46	1 25	1.25	1.46	2.71	3.13	1.25	1.04	1.28
	Phthisis Pulmonalis	4.38	3.13	5 64	4 59	4 38	3.55	4 59	3.13	1.25	2.50	5 22	3.97	3 86
	Whites	23.84	19.66	20.49	20.40	22 71	23.26	22.16	14.40	16 10	21.60	24 93	15 51	20 40
	Colored	36.52	36 52	28 03	38.22	56.91	42 47	31.43	30.58	26 33	34.83	26.32	33.98	36 10
	Total	26.04	23.81	22 35	24 85	31 12	27.99	24 23	18.38	18 59	24.85	27 78	20.05	24.24

Population—White, 57,945; Colored, 14,116. Total, 57,445.

SANITARY CONDITION OF THE FIRST DISTRICT 1880.

OFFICE SANITARY INSPECTOR, FIRST DISTRICT,
NEW ORLEANS, JULY 21, 1880

Dr. Joseph Jones, President Board of Health:

Sir—In obedience to special instructions, I have the honor to present the following report:

1. The street gutters running from the river front, whenever in the range of the sanitary flushing main, are kept well cleaned, and even those not so flushed have been washed almost daily by copious floods of rain, As a consequence, the general condition of street gutters has been far better than has usually been the case at this season of the year.

The gutters of streets in the rear of the Camp street canal, receiving none of the water from the flushing engine, are almost wholly dependent upon the rains and the exertions of the street-cleaning force employed by the city, and are therefore particularly liable to become foul whenever the weather is dry.

The gutters of the streets running parallel with the river require manual labor in cleaning, on account of the impracticability of flushing them. On this account it may be stated that all of the gutters parallel with and back of Rampart street would be intolerably filthy and offensive but for the rains.

2. The gutters flushed by the Auxiliary Sanitary Association's engine, carrying matter directly to the rear of the city, are those of Calliope, Delord, St. Joseph and Julia streets. Those streets between Felicity and Calliope, running from the river front, drain this water into the Camp street head of the Melpomene canal, rendering this formerly offensive sewer perfectly inodorous.

3. The gutters immediately surrounding the Girod-street Cemetery are well flushed, while those on the opposite sides of the boundary streets are filthy.

About the Charity Hospital and New Basin, particularly above the latter, the gutters become intensely foul as soon as the rains cease.

4. The total population of the First District, according to the census of 1879, taken by the sanitary officers, is 54,344, and occupies an area divided by streets into 503 squares having an average front of 300 feet. This embraces the whole of the First and Second Wards and the Third Ward to Galvez street.

Within this area are about 125 miles of street gutters, fully sixty-seven miles of which are unusually filthy and require manual force to clean them.

The present scavenger force consists of 46 laborers, with 26 carts and drivers. There is per laborer a pro rata of about 1181 of population, and per cart about 2000.

In considering the sanitary management of the First District, it is of importance to take into special account the great obstacle offered in the natural depressions of surface, involving in some instances an area of many squares. In these low spots drainage is so imperfect that street gutters are at all times in a stagnant condition, and would require the constant exertion of a large number of laborers to prevent foul accumulations.

5. Accompanying this, I present a condensed statement of sanitary work accomplished by the sanitary officers of the Board of Health from April 15 to July 15, 1880.

6. To keep the district in good sanitary condition during the summer months would require a street cleaning force of at least 100 men.

7. From the first to the fifteenth of July, there were but forty deaths from all causes in the district. Four of these were from fevers—viz: one thypo-malarial, and three congestion of brain. This does not take into account the death from yellow fever of the seaman from the Excelsior, at the Touro Infirmary.

The rate of mortality is decidedly below the general average.

In closing this report, allow me to state that every assistance has been rendered by the Department of Improvments in the sanitary work of this office; and that, according to my observation, the utmost amount of work has been accomplished by the wholly insufficient force employed on the streets. Respectfully submitted,

JOSEPH HOLT, M, D., Sanitary Inspector First District.

MORTALITY SECOND DISTRICT NEW ORLEANS 1880.

The total number of deaths in the Second District during the year was 1115, making an annual ratio of 24.9 per thousand population.

The annual ratio per thousand white population was 22.28. The annual ratio per thousand colored was 31.27.

The greatest number of deaths occurred in the month of June 116
The least number of deaths occurred in the month of January 73
Mortality from January to June 555
Mortality from June to December 560
Total deaths from diseases of the respiratory organs 267
Of these, consumption 168
Total deaths from all fevers 96
Total deaths from congestions 22

The greatest number of deaths occurred in the Fifth Ward.

A suspicious case of yellow fever on Customhouse street, corner of Franklin, was reported, but on careful examination proved to be a case of hæmorrhagic malarial fever.

TABLE ILLUSTRATING DEATHS IN THE SECOND DISTRICT OF THE CITY OF NEW ORLEANS DURING THE YEAR 1880.

DISEASES.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
Malarial Fevers	0	2	6	5	8	5	2	4	18	5	3	4	62
Typhoid Fever	2	2	2	1	0	2	1	1	2	2	1	0	16
Scarlet Fever	0	0	1	1	1	1	4	1	0	0	1	2	12
Measles	0	0	1	5	7	4	2	1	0	0	0	0	20
Diphtheria	0	0	1	0	2	1	1	0	0	4	4	1	14
Diarrhœal Diseases	3	1	0	0	4	3	1	2	1	3	2	2	22
Congestion of Brain	1	1	0	4	9	7	2	6	10	4	5	10	65
Convulsions	0	1	0	1	4	2	2	4	4	1	0	2	21
Phthisis Pulmonalis	5	18	12	14	14	18	10	8	16	18	20	15	168
Deaths from all other causes	62	70	51	48	65	73	54	57	55	51	76	53	715
Total number of Deaths	73	95	80	79	114	116	79	84	106	88	112	89	1115
Number of Deaths. White	46	57	44	56	71	72	54	51	62	64	79	52	699
Number of Deaths. Colored	27	38	36	23	43	44	25	33	44	24	42	37	416
Death rate per 1000 Inhabitants per annum. Malarial Fevers	.....	0.50	1.60	1.30	2.10	1 30	0.50	1.00	4 80	1.30	0.80	1.00	1 30
Death rate per 1000 Inhabitants per annum. Phthisis Pulmonalis	1 30	4.80	3.20	3.80	3.80	4 80	2 60	2.20	4.30	4.80	5.30	4.20	3.80
Inhabitants per annum. White	17.60	21 80	16.51	21.43	27 16	27.54	20.40	19 51	23.69	24.49	26 74	19.89	22 28
Inhabitants per annum. Colored	24.35	34.28	33.47	20 75	38.79	39 69	22.55	29 77	39 69	21 65	27.89	31.57	31.27
Total	19 61	25.52	21.49	21.22	30 62	31 16	21 22	22.56	28.47	23.64	30.08	23 90	24.96

Still Born, 66. Population: White, 31,368; Colored, 13,301; Total, 45,669.

GUTTERS.

For future reference, an exact and carefully prepared table of the number of miles of gutters in the Second District is here presented, which by streets is as follows:

Levee	1	Canal	1½
Decatur	1	Customhouse	3
Chartres	2	Bienville	3
Royal	2	Conti	3
Bourbon	2	St. Louis	3
Dauphine	2	Carondelet Walk	2
Burgundy	2	Toulouse	1½
Rampart	4	St. Peter	3
Basin	1	Orleans	3
St. Claude	1	St. Ann	3
Franklin	1	Dumain	3
Treme	2	St. Philip	3
Marais	2	Ursulines	3
Villere	2	Hospital	3
Robertson	2	Barracks	2⅔
Claiborne	4	Esplanade	3
Derbigny	2		
Roman	2	Total	43⅔
Prieur	2		
Johnson	2	Grand total of miles in the Second District	93¼
Galvez	2		
Miro	2		
Tonti	2		
Rochehlave	3		
Dorgenois	3		
Broad	1		
Total	50		

REPORT OF W. R. MANDEVILLE, M. D,, SANITARY INSPECTOR SECOND DISTRICT.

NEW ORLEANS, December 31, 1880.

Dr. Joseph Jones, President of the Board of Health :

Sir—I have the honor to present the following condensed report of the sanitary work accomplished in the Second District during the year ending with the above date:

LOCATION.

The second municipal district of the city of New Orleans is bounded on the north and northest by Esplanade street and Bayou St. John, and on the south and southwest by Canal street and the new canal. The district extends between these boundaries from the Mississippi River to Lake Pontchartrain, and comprises three divisions, known as the fourth, fifth and sixth wards.

TOPOGRAPHY AND DRAINAGE.

The Second District is renowned for being the most historical part of the Crescent City, since that territory bounded by the Mississippi River, Esplanade, Rampart and Canal streets constitutes the city of New Orleans as originally founded by Bienville. The streets are regularly cut in square blocks, giving to the map of that district the appearance of a chess board. Excepting most of the thoroughfares in the rear of Rampart street, the streets and banquettes of this district are narrower than those of more modern design.

Many of the houses in this part of the city were built before an abundance of light and air and free ventilation were recognized as essentials to perfect health and comfort, but, thanks to their antiquity, are now rapidly falling to ruin and decay, and in their place new ones of more recent design and architectual beauty are being erected with all the comforts now considered so necessary in this progressive age of sanitary science.

The drainage system of this district is very imperfect. Storm and waste water is drained into Lake Pontchartrain, by a number of canals known as Hagan Avenue, Broad, Galvez, Claiborne and Orleans, but these canals are too small and rapidly fill up with mud, and in summer almost completely dry up, making the air redolent with ther foul miasmatic odors.

The drainage machine now in use is far from having the requisite amount of power to carry off the surplus water after having rains, such as visited us this year, and as a consequence the rear portion of the district after a rain resembles a miniature lake for several hours.

It is earnestly urged that these canals be thoroughly deepened and cleaned before the warm season is upon us.

WATER SUPPLY.

Water from the Mississippi River is conveyed by pipes through the district only as far as Claiborne street. Its want is felt beyond this avenue to Broad street, an area of (130) one hundred and thirty square blocks, quite densely inhabited. This supply of water is freely used in all public buildings and private residences, for cleaning purposes, bathing, etc., but its muddy condition renders it objectionable as drinking water.

Rain water preserved in cisterns is generally used for drinking purposes. These cisterns, especially on premises where no hydrant exists, are in the majority of cases so limited in capacity that they are soon emptied when a drouth occurs. Some are in a miserable state of decay, and it would be beneficial to have them repaired or even destroyed.

Wells are found in all parts of the district, and are used principally at dairies and stables for watering stock, and at nurseries for besprinkling plants. The water from these wells is universally considered unhealthy by the inhabitants, and is never used for drinking purposes, except in very rare instances, when no other water is obtainable.

The scarcity of water in the rear of Claiborne street is a just cause of complaint in cases of conflagration, and it would be advisable for the protection of real estate against destruction by fire, to build fire-wells at different points of that section.

The street hydrants in the more central part of the district should be allowed to flow for a couple of hours morning and evening, during the summer months, so as to thoroughly clear the gutters of their filthy accumulations.

PUBLIC BUILDINGS.

The Court-hou[illegible] Police Stations and Parish Prison are in a fair condition, and during the summer months were frequently inspected.

The authorities in charge of the Parish Prison are doing their utmost to keep the building clean, and the police regulations in regard to cells and yard are excellent. The cells are large but poorly ventilated. The privy system of the prison is that known as the "Rochdale" or barrel system; they are emptied daily.

Two wells 13 feet deep, formerly used as privy vaults, should be filled as soon as possible with river sand.

At the time of last inspection the total number of prisoners was 252; number of white males 93; number white females 29; number colored males 84; number of colored females 46.

TREME AND FRENCH MARKETS.

The condition of these markets is tolerable. The principle cause of complaint lies in their vicinity, where banquettes are obstructed by the fruit and vegetable stand kept most by Sicilians. It is deplorable to verify the fact that this class of people, as a rule, seems to ignore the elements of hygiene. A glance in the interior of their abodes is sufficient to prove this assertion.

The appearance of the vegetable markets could easily be improved. The washing of the banquettes on either side from Ursulines to St Philip would result in rendering them less slippery and dangerous to pedestrians during damp weather. The prompt removal of all garbage should not be neglected.

CEMETERIES.

There are four large cemeteries in the Second District, which are the burial grounds of some of the oldest and most respectable families of this city. The walls and many of the vaults of these cemeteries are in a dilapidated state and require immediate repair. It is especially the case with the graveyard bounded by Customhouse, Claiborne, Bienville and Robertson streets, where also the least shower renders the alleys impracticable since the water, finding no outlet, remains stagnant until evaporated by the rays of the sun. The proper authorities should find a remedy for these defects at once.

REMOVAL AND DISPOSITION OF GARBAGE.

The removal and disposition of street garbage, as actually practiced, has proven to be superior to the old system of depositing the same on vacant lots in the rear of the district.

Some complaints, however, arise about the non-hauling of garbage from the streets. This work should be attended to daily and with regularity, and consist not only in emptying of the receptacles containing the rubbish, but also in the removal of all decaying matter from the streets.

Under this heading can be mentioned the neglected appearance of the gutters on some of the most frequented thoroughfares of the district, such as Royal, Chartres and Rampart streets. St. Philip and Ursulines streets in the neighborhood of the French market have a filthy and repulsive aspect.

SANITATION.

During the past year an immense amount of sanitary work has been accomplished in this district. Several thousand circulars have been distributed to the families residing in its boundaries, instructing them in domestic sanitation, and it is with no small amount of satisfaction that the statement can be made that the people were eager to receive all the knowledge possible in this line.

Disinfectants to the amount of 333½ gallons of copperas and carbolic acid solution, and dry copperas (17,908 lbs), were gratuitously distributed to all those desiring it. This was accomplished by means of a cart conveying it from house to house, accompanied by one of the sanitary officers, thus leaving nothing undone to secure health and cleanliness to the inhabitants of this district.

DAIRIES.

A thorough inspection of all the dairies in this district was made during the summer months, and a detailed report presented to the Board.

Could not some means be adopted by which all milk in this city be first carefully tested as to its purity, etc.? The adulteration of milk is carried on to a much greater extent than one not thoroughly acquainted with the facts would suppose, and it certainly behooves us as sanitarians and as guardians of the public health, that this important matter receive our earnest attention.

MORTALITY IN THE THIRD DISTRICT, NEW ORLEANS, FOR THE YEAR 1880.

DISEASES.		January.	February.	March.	April.	May.	June.	July.	August.	September	October.	November.	December.	Total.
Malarial Fevers		3	4	.....	4	9	12	11	9	12	6	8	4	82
Typhoid Fever		1	.....	1	2	2	3	2	2	1	1	...	1	16
Scarlet Fever		.....	.....	.....	1	.....	.....	2	2	1	1	2	6	15
Measles		.....	.....	.....	12	17	6	.....	.....	.....	.....	.....	.....	32
Small-pox		.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	1
Diphtheria		3	2	3	.....	.....	.....	1	5	.....	2	1	3	20
Diarrhœal Diseases		2	3	1	3	2	11	1	4	.....	2	4	3	36
Congestion of Brain		2	2	1	.....	2	2	2	3	2	1	.....	1	18
Convulsions		7	1	3	5	6	3	.....	7	2	1	3	7	45
Phthisis Pulmonalis		10	7	9	11	10	14	9	12	15	11	14	16	135
Deaths from other causes		54	72	74	57	82	84	55	44	54	60	51	70	758
Total Number of Deaths		82	91	92	95	132	135	80	88	87	85	83	111	1161
Number } Deaths. }	White	56	60	56	79	84	87	45	61	47	59	57	83	774
	Colored	26	31	36	16	48	48	35	27	40	26	26	28	387
Death rate per 1000 inhabitants per annum.	Whites	19 92	21.34	19 92	28 10	29.88	30.95	16.00	21.70	16.72	20 99	20 27	29 82	22.94
	Colored	26.31	31 37	36.43	16 19	48.58	48.58	35 42	27.32	40.48	26.31	26 31	28.33	32.62
	Total	21.58	23.95	24.21	35.00	34.74	35.53	21.05	23.16	22.90	52.37	21.84	29.21	25.47
	Malarial Fevers	.78	1.05	.....	1.05	2 36	3.05	2.89	2.36	3.15	1.57	2.10	1.05	1.79
	Phthisis Pulmonis	2.85	1.84	2.36	2.89	2.63	3.68	1.57	3.15	3.94	2 89	3.68	4.21	2.96
Still-born Children		8	8	5	8	5	8	4	3	6	4	6	3	68

Population of District—White, 33,732; Colored. 11,856. Total, 45,588.

MORTALITY IN THE THIRD DISTRICT FOR THE YEAR 1879.

DISEASES.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
Malarial Fevers	3	2	1	.....	6	4	4	10	10	9	4	.....	55
Typhoid Fever	1	.....	2	.....	.....	1	1	1	2	.....	1	2	9
Scarlet Fever	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Measles	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Small-pox	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Diphtheria	3	1	2	2	2	1	.....	2	3	3	2	2	23
Diarrhœal Diseases	4	.....	2	2	4	5	6	2	1	3	1	2	32
Congestion of Brain	2	.....	.....	.....	.....	.....	.....	3	2	.	1	1	9
Convusions	1	..	.....	4	2	2	1	6	.....	.	2	4	22
Phthisis Pulmonalis	14	13	16	14	8	5	13	10	7	19	8	5	132
Deaths from all other causes	68	40	51	53	22	61	56	40	46	48	69	65	649
Total number of Deaths.	96	56	74	75	74	79	81	74	71	82	88	81	931
White	65	36	48	46	46	51	50	46	47	56	62	56	609
Colored	31	20	26	29	28	28	31	28	24	26	26	25	322
Still-born children	.....	.....	2	1	.....	.....	.....	1	4	4	4	....	16

Population of district—White, 33,732; colored, 11,856; total, 45,588.

Death rate per 1000 inhabitants per annum, census of 1880—white. 18.05; colored, 27.25; total. 20.42.

REPORT OF W. H. WATKINS, M. D., SANITARY INSPECTOR, THIRD DISTRICT

NEW ORLEANS, LA., December 31, 1880.

Joseph Jones, M. D., President Board of Health, State of Louisiana:

Sir—I have the honor herewith to submit the annual report in regard to sanitation and sanitary regulations exercised in the Third District, for the year 1880.

Having been elected Sanitary Inspector of this district, April 12, 1880, I at once assumed charge of the office vacated by my efficient predecessor, Dr. W. E. Schuppert

The records for the preceding months have been carefully preserved by the sanitary officer, Mr. C. F. Gonzales, and from these, together with the reports of the former Sanitary Inspector, I have been able to fully complete the report for the year.

On the fifteenth of April, Mr. T. C. Will was assigned as sanitary officer of the district. His remarkable energy and high qualifications admirably fitted him for the position, and the methodical exactness which he has exercised reflects great credit on him.

LOCATION AND TOPOGRAPHY.

The Third District of the city of New Orleans is embraced within the following boundaries: Esplanade street, United States Barracks, the Mississippi river and Lake Pontchartrain. The District is subdivided into the Seventh, Eighth and Ninth Wards. The inhabited portion is, however, embraced in a much more limited space, extending back from the river on an average of not more than three-quarters of a mile, and embraces about 800 square acres. Built on alluvial deposit, the whole district is almost level; highest at the river; the slope back to the lake is gradual, and, in the rear of the inhabited portion, swamps exist which are so low as to be continually covered with water.

DRAINAGE.

Surface drainage alone is the mode by which the district is cleared from storm water, and the facilities for carrying this off are inadequate. The canals and gutters in the rear require deepening, and at least another or larger draining machine is required. The only draining machine is that one located on London avenue. The result is, that after a hard rain many of the streets are inundated, though the natural grade is such that the water does not remain long.

PUBLIC BUILDINGS.

A careful inspection of the Public Schools has been made. All were found in good sanitary condition, but the number of pupils in several is so large as not to allow air-space for each. The total number of public schools in the district is twelve, but one, the McDonogh school No. 12, is yet unfinishsd and will not be occupied before the latter part of January, 1881. The water supply and drainage of each is good. Privy accommodations ample.

Total number of teachers	91
" " pupils—white	3426
" " colored	772
" " male	2226
" " female	1991
Average number of pupils to each teacher	49

The Orphan Asylums of the district are typical institutions of this kind. Care is exercised by those in charge to make each one clean and healthy. There has been little sickness in them, and no contagious disease has been reported.

The Fifth Precinct Police Station, (where the Sanitary Inspector's office is located, is in a dilapidated condition; the doors have rotted away, and the plaster is falling from the ceiling. The privy vaults need rebuilding.

There are five public markets in the district. Each is kept in good condition and regularly inspected by the sanitary officers. The private markets have been regularly inspected, and wherever nuisances have been found, they have been abated. This sanitary condition on the average is good.

CEMETERIES.

The three cemeteries located in the district are far removed from the thickly populated areas and present no feature especially objectionable.

STREETS AND GUTTERS

The Third District with such an extent of river front, with imperfect drainage and sloping so gradually from the levee to the swamp, presents one of the problems as yet unsolved. How shall the gutters be kept clean? At least forty miles of streets regularly laid out are now to be looked after, and the limited means of the city caused their total neglact duriug the latter part of the year, where owing to heavy rains necessity demanded that they should receive attention. At the best season of the year careful inspection of street gutters was made by your orders, and in the report made at that time it was truly stated that of eighty miles of gutters quite one-half could be classed as foul or obstructed. The Eighth Ward made the best exhibit, but this was in a great measure due to the fact that in compactness and grading, it is superior to the other wards, and therefore easier to clean with a limited force. Much can be done by the proper authorities, and such work should be commenced by alignment of the gutters, improving the grade and deepening the canals so that a rapid current shall be established.

A limited number of the streets in the district are paved with ballast from ships known as "cobble stones," and are in good repair. The streets not thus paved are in a fearful condition, and for months many of them are impassible to vehicles.

The supply of water from the "water works" of this city is so limited in the lower portion of the district as practically to be of no service in case of drouth or fires.

DAIRIES AND STABLES.

The number of dairies is large, but in many of them only two or three cows are kept. The extensive ones are located in the extreme rear of the Seventh Ward. They have been carefully inspected and all efforts made to have them kept in good sanitary state. The milk has been frequently tested and its quality found to be excellent. The livery stables are kept clean, and the manure is frequently removed.

PRIVY SYSTEM.

This differs in no respect from that of other districts of the city. It is defective. An inspection revealed the fact that in numerous instances, they were not in conformity to law, and when cleaned soon fill up with sub-soil water, causing them to be always offensive and insanitary. The inspection of 7466 premises showed that only 5743 were found in good condition, 337 required repairing or rebuilding.

The city ordinance in regard to the emptying of these vaults requires that vidangeurs shall perform this work from six o'clock a. m. to six o'clock p. m., and for every vault to be emptied a permit shall be taken out at the office of the Board of Health. This is violated in many instances, and strict watch has been kept by the sanitary officer to prevent such an occurrence in this district. Another cause of complaint against the excavating companies, is that the barrels holding the fæcal matter are not air-tight. A careful inspection of such apparatus used by these companies convinces me that only that form of barrel having an iron top with rubber flanges is calculated to do away with all cause of complaint, on being carried to the "nuisance boat," where such matter is deposited.

The "nuisance boat" is located at a wharf built by the city at the foot of Reynes street. It is well constructed, holds about eighty loads, and since the adoption of the present system of dumping the fæcal matter, no complaints have reached this office. In the summer the boat is towed daily below the city, and its contents emptied into the middle of the Mississippi River. In the winter, owing to the small amount of work performed by the excavating companies, it is emptied but once a week.

POPULATION.

Adopting the United States census of 1880 as substantially correct, we find the Third District has a population as follows:

WARDS.	White Males.	White Females.	Black Males.	Black Females.	Total by Wards.	Total in District.
Seventh Ward	5.989	6.451	5.373	4.317	20.130	
Eighth Ward	3.925	4.274	774	905	9.878	
Ninth Ward	6.190	6.903	1 197	1.290	15.580	
						45.588

MORTALITY FOURTH DISTRICT, NEW ORLEANS, 1880.

DISEASES.		January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
Yellow Fever		1												
Malarial Fevers		1	2			1	8	2	3	13	7	3	2	42
Typhoid Fever			2		1	1	1		2		1	1		9
Scarlet Fever					1	1	1						1	4
Measles			1	2	1	3	5	1						13
Small-pox														
Diphtheria		2	1			2		4			8		6	18
Diarrhœal Diseases		5		1	6	17	13	8	6	8	3	4	2	73
Congestion of Brain			1	2	1	1	3	5	1	1		2	1	18
Convulsions		6		1	1	3	2	1	4	2	6		2	28
Phthisis Pulmonalis		7	15	12	9	6	6	3	9	8	7	16	16	114
Deaths from all other causes		22	28	35	28	45	44	26	31	30	43	40	29	401
Total number of deaths		44	49	53	48	80	83	50	56	62	70	66	59	520
Deaths.	Whites	25	32	32	35	62	62	38	32	46	50	50	42	506
	Colored	19	17	21	13	18	21	12	24	16	20	16	17	214
Death rate per 1000 inhabitants per annum.	Whites	9.79	12.53	12.53	13.71	24.29	24.29	14.88	12.53	18.02	19.59	19.59	16.45	16.52
	Colored	32.99	29.52	36 46	22.57	31.25	36.46	20.83	41.67	27.78	34.73	27.78	29.52	30.96
	Total	14.06	15.66	16 94	15.34	25.57	26.54	15.98	17.90	17.15	22.37	21.10	18.86	19.18
	Malarial Fevers	0 31	0.63			0.31	2.55	0.63	0.95	4.15	2 25	0.95	0.63	1.11
	Phthisis Pulmonalis	2.23	4.79	3.83	2.87	1.65	1.65	0 95	2.87	2 55	2.23	5.11	5.11	3.37

Population—Whites, 30,625; colored, 6910; total, 37,535.

REPORT OF R. A. BAYLEY, M. D., SANITARY INSPECTOR FOURTH DISTRICT

OFFICE SANITARY INSPECTOR, FOURTH DISTRICT,
NEW ORLEANS, January 1, 1881.

Joseph Jones, M D., President Board of Health:

Sir—The following report of sanitary work accomplished in the Fourth District, including health statistics, etc., during the year ending December 31, 1880, is herewith submitted.

This district is composed of the Tenth and Eleventh Wards. The population of these wards amounts in the aggregate to 30,625 whites and 6910 blacks; a sum total of 37,535 persons. The district is thickly settled from the river as far back as Dryades street. Only two of the streets are paved, viz: Tchoupitoulas and Magazine streets. Washington street is paved, but only a short distance.

HEALTH.

There was considerable sickness in this district from the beginning of spring to the advent of cold weather, but the rate of mortality was small. The death rate per 1000 inhabitants for that time, from February to November, averaged only 20.11. For the whole year, the death rate was 19.18; the whites being 16.52, and the blacks as high as 30.96.

The deaths from all causes, commencing with January, gradually reached its maximum in May and June, and then ran up in September to a moderate figure, which was maintained with a slight increase during the last three months of the year. The majority of the deaths in the spring months was due mainly to diarrhœal and malarial diseases, which are so common at this season. The rise of mortality in September was occasioned by many cases of congestive fever proving fatal.

Isolated cases of diptheria and scarlet fever, usually of a malignant type, were reported throughout the year. There was no tendency to spread, except in a local manner, in the cases coming under observation. Several foci of infection of scarlatina back on Jackson street were difficult of eradication. These diseases may extend to serious proportions the present winter, unless checked by energetic sanitation. Fumigation of the rooms, and disinfection of the yards and vaults of infected houses, are done whenever a death or case is reported.

The dengue fever, as a mild but yet extensive disorder, is classed among the remarkable diseases. The community groaned under this *quasi* serious visitation without any *serious* loss of life. This fever lasted about three months, and was only checked by frost in October. Nothing was attempted in the way of sanitation to arrest its rapid progress. Like influenza it swept over the entire city in a very short time. The non-malarial character of this fever is amply proven by the failure of quinine to abridge the average duration of an attack.

Malarial fevers were very common, especially in the rear of St. Charles street, during the Spring and Fall months. The condition necessary for the generation of *miasmata* were never more strikingly present in this district, owing to the bad effects of continuous rainy weather on the unpaved mud streets and badly-constructed gutters.

Two cases and a death from hæmorrhagic malarial fever were reported in October, as having occurred in a family residing on Josephine street, between Liberty and Howard streets. These cases were declared of a purely malarial nature by competent authorities. Owing to the idea of yellow fever being associated in the minds of many persons with these cases and the *bare* possibility of danger, the sanitary measures instituted in the former diseases were immediately carried out.

SANITARY CONDITION.

The sanitary condition of this district may be said to be superior in some respects to that of previous years. This is improved by the constant inspection of the yards, drains and vaults of premises, which is not without good and permanent results. The people must be educated in the fundamental principles of sanitary science, as Herbert Spencer would say, before the real benefits of this work can be apparent to all.

As for the streets and gutters, the less said about them the better. To condemn their present sanitary state in too severe language would be to cast odium on the heads of the innocent, perhaps. What could be expected, however, of a street force of only eighteen or twenty men in a district having a superficial area of two and a half or three miles? A hundred men might be able to attend to the streets with credit to the city.

The inspection of the gutters in summer elicited a few items of interest. The parallel or cross-street gutters were the foul ones at that time, in the front or middle sections of St. Charles street; the constant stream of river water in the perpendicular ones keeping the latter washed out. The rank growth of weeds in the parallel gutters in the rear of St. Charles street, acting as nature's purifiers, keeping those drains in a comparatively clean condition. The perpendicular gutters, not so good in front, are ditches, or canals, in the rear of the district. The drainage in these latter gutters was found to admit of a uniform flow of water, gradually slowing up from the river back, when the Auxiliary Association were working at the foot of Felicity street. Above Washington street, with the exception of Toledano street, there is little drainage noticeable back of St. Charles street. The water here has to find an exit by the gutters of the above mentioned streets. The capacity of the perpendicular gutters for drainage purposes may be shown best in figures from estimates taken at the time.

Eighth street in front: Flow of water 350 feet in 5½ minutes.
Eighth street in rear: Flow of water stationary.
Second street in front: Flow of water 350 feet in 5¼ minutes.
Second street in rear: Flow of water 350 feet in 6 minutes.
St. Andrew street in front: Flow of water 350 feet in 4½ minutes.
Josephine street in rear: Flow of water 350 feet in 5 minutes.

There is not much difference, therefore, in the rapidity of the flow of water, between the extreme front and rear of the district, in the average gutters examined.

There must be some difference, however, to prevent stagnation in front, but none worth mentioning. This flatness of grade in the gutters is not calculated to facilitate drainage; it must be corrected before anything else need be attempted. If the sides and bottom of the drains were constructed of stone, the friction of the water would be less, and a more rapid flow result as a consequence.

The scavenger force in the two wards consists of ten or a dozen carts, with the accompanying drivers. This limited number of vehicles is expected (as required by law) to remove the trash, garbage, etc., from more than 7600 premises, between the hours of 7 and 10 a. m.; the undertaking is naturally a signal failure. After the streets became impassable from rains these carts stopped going around. A matter of complaint with residents is the dumping of garbage by these drivers into the bad holes on some streets. Quagmires cannot be filled with such material without the erection of public nuisances.

It is necessary in this report to recapitulate the sanitary evils not yet dwelt on, such as old privy vaults; low yards without drains; tenement houses; low lots, etc. These nuisances come under the control of health ordinances, and are being rapidly abated with time and perseverance.

SANITARY OPERATIONS.

The limited outbreak of yellow fever in 1879 prompted and urged the completion of the inspections and abatement of nuisances at an early date the past year. Another regular officer was assigned to this district in May, and with his extra help the sanitary work was hastened considerably towards completion.

In the month of June, there were more than 5060 copies of the circular No. 9 distributed in this district. They were left at every house by the sanitary officers as far back as St. Denis street, when the supply allowed to this district gave out. This measure was followed not long afterwards by the free delivery of the copperas in the dry state. The copperas disinfectant, in quantities varying from three pounds and upwards (according to size and nature of vaults), was left at every public and private building from the river to St. Denis street; and around the markets in the rear of the district. Ample instruction was given to the occupants of the houses visited, how to dissolve and use the copperas in the vaults, sinks, drains, etc., on the premises. An examination of the privy vaults was included in the above work, and notices were served immediately to abate any nuisance discovered. A saturated solution of copperas, with a strong percentage of carbolic acid added, was kept on hand in the sanitary office during the summer, for the benefit and use of persons living in this portion of the city.

These wise measures emanating from the Board of Health, were productive of incalculable good, in a sanitary point of view. The residents of the district showed their appreciation of them by a hearty and willing co-operation at all times.

Reinspection of premises where yellow fever occurred in 1879 was repeatedly done through the summer The vaults and drains on them were subjected to thorough disinfection.

The tanks, barrels, hose, etc., belonging to the excavating companies located in the District were made the objects of a special examination and test in August. There was nothing found, however, of an objectionable nature, as the companies use the odorless apparatus as specified in a health ordinance. It is worth mentioning here that, in consequence of the limited number of wagons in the employ of some of these vidangeurs, the emptying of privy vaults is not as rapidly attended to as the nature of the case demands.

HOUSE TO HOUSE INSPECTION.

The regular inspections were over some time in August, but the main portions of the district has been gone over as early as July. This work had been hurried on from the beginning of the year, but not as fast as after the reorganization of the Board of Health in April.

Reinspection of premises was principally attended to during the months of July, August and September. This work is particularly necessary at this time of the year, and in the means of abating many nuisances lying over from a previous inspection.

Inspections and reinspections consist in the careful examination of the yards, drainage-gutters, alleys and privy vaults connected with any premises visited by the sanitary officer. Notices are served afterwards in the statement of nuisances. Much trouble is often experienced in forcing parties is to have their vaults cleaned. This is most likely to be the case when a notice is served within *six or eight* months subsequent to a previous one to the same effect, which is often necessary in badly constructed vaults. The average time for a vault to go uncleaned is ten months or a year, In the case of boarding-houses or asylums it is necessary at least three or four times a year, or even oftener in some instances.

The vaults in this district are usually faulty in construction, and, on that account, soon fill with sub-soil water after being emptied. When a vault fills in this manner a careful disinfection is all that is requisite, unless it overflows into the yard. There is a disparity then between *bad* and *foul* (water) vaults.

Ordinances are necessary to enforce, with any hope of success, the filling of low lots and the construction of drains on premises. These evils are numerous in the district, but difficult of abatement. The two ponds on Tchoupitoulas street, just above Washington street, are happily now being filled. The Board of Health, as in former years, ought to have the right to decide when a lot is properly graded for building,

DAIRIES.

There are as many as 192 premises with cows on them in this district. The total number of animals is reckoned at 522. The dairies are distributed throughout the district, but principally in the front and rear portions. There are not over twenty large dairies in all, the average number of animals kept ranging from one to five.

A personal inspection of the stables was made in the Fall, when they were at their worst in consequence of bad weather. The good, indifferent and bad ones were examined in turn, and advice was given in one instance and an order in another, as the exigencies of any particular case demanded. I was surprised to see the evidences of improvement in many places, as well as a manifest endeavor on the part of the dairymen to comply with the requirements of health and decency. The better class of dairies had good or water-tight flooring in the stalls and drainage gutters and receptacles for the excrementitious material of the cows. There were a limited number of what might be termed filthy dairies examined, where no disposition was shown by the owners of them to keep anything clean. It is for this class of stables that a Health Ordinance, properly worded, is requisite to enforce a strict compliance with law. This is but an instance of a retrograde metamorphosis of human nature, inasmuch as these slovenly people are ignorant of what constitutes cleanliness of either person or premises. In the absence of any law to limit the number of animals to be kept within thickly-settled neighborhoods, or to define the manner of construction of the stables, the sanitary officers are able only to act as in ordinary premises. The matter of the adulteration of milk, like the food on which the animals should be fed, is still beyond the immediate control of the Board of Health.

SHIPPING.

The shipping along the river front was regularly inspected in person every day or so, from the middle of May to the end of September. The captain, or chief officer, of the vessel was interviewed, and a written statement required of him concerning the health of the crew, ports stopped at and sailed from, kind of cargo, etc. The regular printed forms were used in every inspection. Some objections were raised in the beginning, called in question the legality of the examination, but they were easily set aside when fully explained.

No sickness was discovered on any steamship or sailing vessel visited in the summer. The majority of the steamships had sailed from foreign ports between West Indian and Mexican ports and this city came here usually with water-ballast or wine and other like simple cargoes. The crews of these latter vessels are almost invariably acclimated Spaniards or Italians.

Number of steamships	36
Number of ships inspected	15
Total	51

MARKETS.

The principal markets in this district are not in perfect sanitary condition. Complaints have been received of late concerning three out of the whole number of five.

The Saraparu Market has been reported in a dangerous state, the shed at the end towards Rousseau street being shaky and liable to fall down at any time. The roof of the Magazine Market leaks in several places. This has been so for the past six months. The Ninth Street Market is sadly in need of repair. The water-plug stationed here was reported out of order about a year ago. Keller and Second Street Markets are in very good condition.

BONE YARDS.

These establishments for the purpose of rendering and cooking the flesh of dead animals, are situated in the rear of the Claiborne canal, on Washington street. They were reported early in the summer as nuisances in this city, so long as they remained on one of the principal streets and drives in the district. A committee was appointed by the Board of Health to examine and report on them; since which time the matter continues *in statu quo*. I succeeded, with some trouble, in having a lot of hogs removed from these yards. These hogs were being fed on the flesh of dead animals, and sold to butchers at every convenient opportunity. The proprietors of two bone yards were served with peremptory orders in September to cease further carrying on of their business, until such time as they might make application for and receive permits for so doing. Mr. Barbach, owner of a bone-yard No 1, complied with the notice served on him, and is no longer to my knowledge pursuing his business. Mr. Kolwe, owner of bone-yard No. 2, got an injunction out immediately in one of the courts and has continued working. The difference between the two establishments is decided, and in favor of the one owned by Mr. Kolwe. The latter party uses steam altogether to act on

the carcasses of the animals, which are placed in cisterns for that purpose; the former party makes use of a plain iron boiler, in which the animals are imperfectly covered over during the boiling process. Mr. Barbach is willing to move off Washington street, and put up steam works in the extreme rear of the Sixth District. Mr. Kolwe, having steam works already, is now testing in the courts the question of the eligibility of the location. These cases demand the early action of your honorable body.

PUBLIC SCHOOLS.

These institutions of learning were inspected just before the holidays. There are eleven of them in the district for the children of the white and colored residents separately.

The schools were found about in the same condition as when reported on a detail a year ago. I thought proper, therefore, to omit the tables usually appended to this report. I would call attention, moreover to the general unsanitary condition of the new Dryades street school for colored children. The yard and building are not as good as the ones in use last year.

MORTALITY FIFTH DISTRICT NEW ORLEANS, 1880.

DISEASES.		January.	February.	March.	April.	May.	June.	July.	August	September.	October.	November.	December.	Total.
Malarial Fevers							1				1			2
Measles						3								3
Diphtheria					1		4				1		1	7
Diarrhœal Diseases							1							1
Congestion of Brain							1		1		1		2	5
Convulsions		1			2		1	2	1			1		8
Phthsis Pulmonalis		1		3	1	1	2		4	3	1	5	4	25
Deaths from all other canses.		7	6	8	6	16	10	11	3	7	6	6	5	91
Total number of Deaths		9	6	11	10	20	20	13	9	10	10	12	12	142
Number of Deaths.	White	5	3	6	8	7	16	9	6	7	6	9	6	88
	Colored	4	3	5	2	13	4	4	3	3	4	3	6	54
Death rate per 1000 Inhabitants per annum,	Malarial Fever.						1.04				1.04			0.22
	Phthisis Pulmonalis.	1.04		4.01	1.04	1.04	2.08		5.15	4.01	1.04	6.20	6.09	2.82
	Whites	12.01	7.03	14.05	19.03	16.09	38.04	21.01	14.05	16.09	14.05	21.01	14.05	17.52
	Colored.	10.07	9.06	15.08	6.05	40.75	12.07	12.07	9.06	9.06	12.07	9.06	18.02	14.00
	Total													16.10

Population—White, 5021. Colored, 3856. Total, 8857.

Death Rate per 1000 Inhabitants per Annum—White, 9.93; Colored, 14.00. Total, 16.00.

TABLE SHOWING THE SANITARY CENSUS OF THE FIFTH DISTRICT (ALGIERS) DURING THE YEAR 1880.

WHITE.

Total population	5,021
Natives of New Orleans	2,603
Born in other States or foreign countries	2,418
Male	2,993
Female	2,028
Adults	3,243
Children	1,778
Vaccinated	3,904
Unvaccinated	1,117

BLACK AND COLORED.

Total population	3,835
Natives of New Orleans	1,992
Born in other States or foreing countries	1,843
Male	1,631
Female	2,204

TOTAL POPULATION.

White, black and colored	8,856

Table showing the number of inspections and reinspections made in the Fifth District (Algiers) during the year 1880:

REPORT OF EUG. J. MIOTON, M. D., SANITARY INSPECTOR FIFTH DISTRICT.

OFFICE SANITARY INSPECTOR FIFTH DISTRICT,
NEW ORLEANS, LA. January 1, 1881.

Joseph Jones, M. D., President Board of Health.

Sir—The following report of sanitary operations performed in this district, including statistics, etc., during the year ending December 31, 1880, is respectfully submitted.

Having entered on duty April 11, 1880, I make use of the records preserved in the office, and particularly the monthly reports of my worthy and able predecessor, Doctor J. H. Magruder, to complete necessary material for a full statement of the year's sanitary work.

TOPOGRAPHY.

The Fifth District, which is composed of Algiers, Tunisburg, McDonoghville, Freetown and Gretna, is situated on the right bank of Harvey's canal, opposite Carrolton, to the limits of Tunisburg opposite Chalmette (battle grounds) and occupies an area of fourteen miles in length by half a mile in depth.

As is easily seen, the Fifth District is probably one of the largest of the city, although its population is only (14,000) fourteen thousand inhabitants.

HEALTH.

It is most gratifying to state that the amount of sickness and the mortality that have occurred, when compared with the census of the district, will show the health of the community to have been excellent. Only one hundred and forty-two (142) deaths have occurred during the past year in Algiers out of a population of eight thousand eight hundred and fifty-six (8856) inhabitants.

Not a single case of yellow fever nor small-pox has been recorded in the district for the year 1880. The exanthemata were exceptionally mild; the malarial fevers and dengue, which prevailed throughout the summer months, were also of a mild type, there being only three deaths of malarial fevers and not a single one from dengue.

SANITATION.

The almost total immunity of the Fifth District from all contagious or infectious diseases during the year which has just elapsed, can, I believe, be fairly and justly attributed to the speedy and energetic manner with which the Board of Health's instructions concerning house to house inspections, the free distribution of *disinfectants* (copperas and carbolic acid), the abatement of all nuisances, the special inspection of all the sea-faring vessels landing within the limits of the district, have been carried out. From April to the latter part of October, over 15 barrels of sulphate of iron and over 40 gallons of pure carbolic acid (Calvert's No. 5), have been freely and gratuitously distributed to the people of the district. All the premises were cleaned, fumigated and disinfected; the bed-clothes and the patient's wardrobe were also treated in the same manner.

PUBLIC SCHOOLS.

The public schools, two in number, McDonogh Nos. 4 and 5, were inspected several times during the past year, and their sanitary condition was made the object of careful note. Both buildings are comparatively new, having been completed in 1875; the rooms are spacious, well ventilated and kept clean. Some of the rooms in these schools are quite crowded, and I presume are mroe so now, the number of pupils having increased since these particulars have been obtained. The privy accommodations and play-grounds are amply sufficient, and are kept in a very commendable manner.

VACCINATION.

Although Tuesday and Thursday in each week, from 11 to 1 p. m., were set apart for a gratuitous vaccination, only three applicants were vaccinated in this office during the year, showing a very deplorable indifference on the part of those who are most interested.

INSPECTION OF SHIPS.

In accordance with the sanitary rules, adopted and approved by the Board of Health of the State of Louisiana on April 22d, 1880, sixty-seven (67) ships were inspected by me from May to October. Of these vessels twenty-four (24) had sailed from Havana and Florida Keys, one (1) from Vera Cruz and forty-two (42) from healthy ports.

The sanitary condition of the vessels, crews and passengers was in all instances found excellent.

The most cordial thanks are here tendered to the officers of the Morgan line of steamers for their politeness and courtesy towards my sanitary police officers and myself.

BARK EXCELSIOR.

On the seventeenth of August, 1880, arrived from Quarantine Station the Swedish bark Excelsior, Captain Bjorkgren. The bark landed at "Wallace Wood's powder wharf," Tunisburg, Fifth District (opposite the abattoirs. I immediately repaired on board and officially took charge of her. According to the instructions I had received from the Board of Health; I placed permanently on board my detailed officer, Mr. James Nowell, with the strict order of allowing no communication from land without a written permit from the President of the State Board of Health. This rule was rigidly carried out, and during all the stay of said bark in port, there were admitted on her those only who were employed in loading the vessel, and who had been previously examined by me and found to be acclimated. I made it my duty to visit the bark twice daily, morning and evening. Two (2) cases of dengue, both ending in recovery, occurred on the bark, which cases were reported at once. The honorable President of the Board of Health, Doctor Joseph Jones saw both patients and confirmed my diagnosis. A light purgative and a few grains of quinine were administered, and the fever readily subsided.

The bark "Excelsior" left for Bayonne, France, on the eleventh day of September, 1880, loaded with grain. The wise and prudent measures, rigidly enforced in this case by the State Board of Health, cannot be too highly praised, and all those who know and appreciate the delicate position of the board at that particular moment will acknowledge the wisdom of the course pursued on this occasion.

DRAINAGE.

The drainage of this district is very defective. The portion lying between the river and Market street is well drained, but back of that street there is no sewerage at all; as a natural consequence, the rear of the district is overflowed after each heavy rain, and remains so for days until the water is absorbed or evaporated. This complete lack of drainage could be remedied at very little expense by opening an outlet to the swamps. The above remarks will show that the streets must be, and are, in a deplorable condition; although, in justice to the Street Commissioner, I must say that much has been done of late for their improvement.

NUISANCE BOAT.

The most urgent and pressing want of the Fifth District for the present is, most assuredly, a nuisance boat. The ground used as a place of deposit for all kinds of garbage is situated in a thickly-settled part of the district, is a source of danger and annoyance for those living in the vicinity, and a disgrace to any community. I have time and again complained of the state of affairs, but vainly so far. I earnestly hope that the Board of Health will take the necessary steps to secure a nuisance wharf and a garbage boat for the district.

MARKETS.

The markets of the district have been inspected regularly every week throughout the year, and have always been found in a clean and irreprovable condition. Not a single complaint was ever made against them during the whole year nor has any objectionable article of food ever seen or offered for sale.

DAIRIES.

There are from twenty to twenty-five dairies in the district, which have been regularly inspected during the year, at intervals of one and two months, and cleanliness of the premises have been carefully enforced. The condition of the dairy buildings was especially examined, and with a few exceptions—which were made the object of special remonstrance—they were found to be kept clean; the cows looked healthy and in good condition. Quite a number of persons keep from one to three cows for family use, but no complaint has ever been made against them.

SANITARY POLICE.

It is my pleasant duty to bear testimony to the perfect efficiency of Messrs. Henry Labarre and James Nowell. I must here state to their praise that they are well qualified for the position, attentive to duty, prompt in action, and that they neglect nothing that can promote the health of the district.

POLICE STATION.

The Eighth Precinct Police Station, in charge of Sergeant J. J. Pujol, is always kept clean and in the best sanitary condition.

MORTALITY SIXTH DISTRICT, NEW ORLEANS, 1880.

DISEASES.		January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
Yellow Fever		.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Malarial Fevers		.....	.....	.....	1	1	.....	.....	1	3	1	3	.....	10
Typhoid Fever		1	1	.....	1	.....	.....	.....	.....	.....	.....	1	2	6
Scarlet Fever		.....	.....	.....	.....	1	1	.....	.....	.....	.....	.....	1	3
Measles		.....	.....	.....	.....	4	1	1	.....	.....	.....	.....	.....	6
Small-pox		.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Diphtheria		.....	.....	.....	1	1	1	.....	.....	.....	.....	3	1	7
Diarrhœal Diseases		.....	.....	.....	.....	1	.....	.....	2	2	1	.....	1	7
Congestion of Brain		.....	1	.....	.....	1	.....	.....	.....	1	.....	.....	.....	3
Convulsions		.....	1	1	.....	3	3	1	3	5	.....	2	.....	19
Phthisis Pulmonalis		4	3	4	2	6	2	3	.....	.....	3	.....	2	29
Deaths from other diseases		25	16	9	20	22	20	20	23	21	22	19	22	230
Total Number of Deaths		30	22	14	25	40	28	25	29	32	30	26	28	329
Deaths.	White	21	9	4	19	29	21	18	18	22	10	12	17	196
	Colored	9	13	10	6	11	7	7	11	10	1	14	11	123
Death rate per 1000 inhabitants per annum.	Whites	21 08	9.03	4.01	19.10	29.11	21 08	18 07	18.07	22.09	16.06	2 04	17.06	16 40
	Colored	26.48	38.08	29.42	17.63	32.30	20.59	20.59	32.36	29.42	41.19	40.19	32.30	30.16
	Total	22.45	16.47	10 18	18.71	29.94	20.96	18.71	21.71	22.93	22.45	19 46	20.96	20.52
	Yellow Fever	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	Malarial Fevers	.....	.....	.....	0.64	0.64	.....	.....	0.74	2.24	0.74	2.24	.....	0.60
	Phthisis Pulmonalis	2.99	2.24	2.90	1.49	4 49	1.49	2.24	.....	.....	2.24	.....	1.49	1.80

Still-born, 13.
Population—Whites, 11,951; colored, 4078; total, 16,029.

REPORTS OF W. H. CARSON, M. D., SANITARY INSPECTOR SIXTH AND SEVENTH DISTRICTS—SIXTH DISTRICT.

OFFICE OF SANITARY INSPECTOR, SIXTH DISTRICT,
NEW ORLEANS, December 31, 1880.

To Joseph Jones, M. D., President Board of Health, State of Louisiana?

Sir—I have the honor to submit the following summary report of the operations of this office, and other affairs of importance, as connected with the sanitary condition of the Sixth District, of this city, for the year 1880:

HEALTH.

Throughout the year this district has remained remarkably healthy. With the exception of a visit from the benign dengue fever in the later months of the year, and with but few cases of contagious diseases, the health of the district has been but slightly disturbed, the death-rate falling in the month of March as low as four per cent per thousand.

The rate of mortality, with a population of over sixteen thousand, speaks unusually well for the general good health of the district.

Not even a *suspicious* case of yellow fever during the year, and the one case occurring in September of last year (1879) the premises were repeatedly disinfected and cleansed, inside and out, painted, white-washed, water-closets emptied, and other sanitary measures incident to prevention duty attended to.

In connection with my article on the health of the Sixth District, I have prepared a tableau of mortuary statistics, showing the number the cause of death, with the per centage per thousand in the district for the past year.

I believe that the various forms of malarial fever, at times prevalent in this district, could be decidedly lessened, if not absolutely abolished, if the benefits of proper scientific drainage were in force. Many localities in the district have but little or no drainage, and it is scarcely to be wondered at that, after the rainy season, with the neighboring fields flooded with water at some localities, and saturated throughout, and with the aid of a semi-tropical sun, the powerful agents in the production of miasmatic fevers, if not of many other more pernicious diseases, that the various types of malarial fever prevail.

DRAINAGE.

No efforts have been made during the past year as to improvement of drainage in the district. That the matter requires attention, and that at an early date, is indisputable.

The continous and heavy rains for the past four or five months have rendered the roads and highways impassable, and large drifts from the roadway have, in many instances, clogged the drainage on either side of the roadbed, and in many instances resulting in the formation of quite extensive pools of water, stagnant and foul smelling.

I cannot but again refer especially to the section between Toledano and Delachaise streets. This locality and its great drainage deficiency has been repeatedly laid before the authorities, but without avail: no remedial action has been attempted. In this section referred to, heavy rains will keep the rear of the district in overflow for many weeks, and even at times many months.

WATER SUPPLY.

If the district is sadly deficient in drainage requirements, the same may be said of its artificial water supply. No extension of water-mains has as yet been made beyond Toledano street, and its absence is made manifest in many ways, as it refers to the furtherance of sanitary measures.

Sunken wells still continue to be the main resource of the inhabitants of the district, and with the addition of their wooden cisterns furnish sufficient grounds for suspicion as to the purity and properties of their water for drinking purposes.

With not a hydrant in the district, and depending upon their supply of water from their cisterns and wells, it is almost impossible that the desired cleanliness and measures of a sanitary nature could be systematically attended to.

PUBLIC BUILDINGS.

The public buildings in the District number twenty-six (26); this includes public schools, churches, asylums, a police station and a market,

All of these buildings have been the subject of inspection during the year. The public schools, according to the usual custom, have received a most thorough sanitary investigation, and it is my pleasure to state that, without exception, they presented a most satisfactory condition.

The Jefferson Market, located at the corner of Magazine and Berlin streets, is the principal and only market in the district.

No complaint can be offered as to its sanitary condition. On the contrary, cleanliness is the rule, and on no one occasion have I had to take measures to prevent the sale of tainted meat.

DAIRIES.

Early in the month of September all the dairies of the Sixth District, numbering eighty-five (85) received a most thorough inspection, an inspection not only devoted to the dairy proper, stock, etc., but also the neighboring premises and outbuildings, and all was exceedingly satisfactory.

This condition is in marked contrast to that noted in my annual report of the year previous (1879), at which period but little time or attention was devoted by dairyman to many of the most simple, yet important hygenic requirements.

The inspection of the stock proved them to be in the best possible condition of health; milk-pails, cans and the other attachments incident to the business were observed to be in an exceedingly clean condition.

It is with much satisfaction that I embrace the opportunity to present such a deserving and industrious class in a more enviable light than that contained in my report on this subject for the previous year (1879

PRIVY SYSTEM.

The pernicious privy system, with its leaky, ill-constructed and foul smelling vaults, yet continue to exist and flourish; no change, no improvement, but the same in character and build as used generations back of the present.

In this district this unhealthy and obnoxious condition is probably not so prominent, or its unquestionable deleterious effects, to any great degree, so noticeable, from the fact that the district occupies an extensive area in proportion to its population.

Yet in the more thickly settled and populated sections, the source of many of the so-called filth diseases, this privy system in vogue is not without just and almost positive suspicion.

This is a subject of the utmost vital importance to every resident of this city, for the obnoxious system is not confined to any one district, and it is most sincerely predicted that ere another decade this most uncivilized and abhorent privy system, now in use, will have been abolished without even a vestige of its former residence.

MORTALITY SEVENTH DISTRICT, NEW ORLEANS, 1880.

DISEASES.		January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
Yellow Fever														
Malarial Fevers										2				2
Typhoid Fever														
Scarlet Fever														
Measles														
Small-pox														
Diphtheria		1										1		2
Diarrhœal Diseases		1				1				1		1		4
Congestion of Brain						1					1			2
Convulsions					3			1					1	5
Phthisis Pulmonalis				3	1		1					3	1	9
Deaths from all other causes		8	14	4	12	10	8	10	9	9	8	4	8	104
Total Number Deaths		10	14	7	16	12	9	11	9	12	9	9	10	128
Number { White		6	6	2	8	7	4	4	3	6	8	5	3	62
Deaths. { Colored		4	8	5	8	5	5	7	6	6	1	4	7	66
Death rate per 1000	Whites	23.13	23.13	7.71	30.84	26.99	15.42	15.42	11.56	23.13	31.16	19.28	11.56	19.92
	Colored	15.36	30.72	19.20	30.72	19.20	19.20	26.88	23.04	23.04	30.72	15.36	26.88	21.12
	Total	19.27	26.93	13.47	36.78	23.08	17.31	21.16	17.31	23.08	17.31	17.31	19.27	20.52
Inhabitants per annum.	Yellow Fever													
	Malarial Fevers									3.84				0.32
	Phthisis Pulmonalis			5.77	1.94							5.77	1.94	1.44

Still-born, 5.

Population—Whites, 3125; Colored, 3112. Total, 6237.

OFFICE OF SANITARY INSPECTOR, SEVENTH DISTRICT,
NEW ORLEANS, December 31, 1880.

To Joseph Jones, M. D., President Board of Health State of Louisiana:

Sir—I have the honor to submit the following summary report, with its accompanying comments, of the sanitary work performed throughout the year 1880 in the Seventh District of this city.

HEALTH.

The condition of health generally has not materially differed for the past few years.

It is worthy of notice that in the population of the district, numbering in the total six thousand two hundred and thirty seven (6237)—U. S. census, 1880—the percentage of mortality attending the colored race is in excess of that of the whites.

The two races are rather evenly divided in population, the whites numbering 3112 and the colored 3125. The deaths number in the former 62, and in the latter 66.

Notwithstanding the heavy and persistent rains of the fall season, types of malarial fever did not present an increase, though diphtheria and intestinal diseases were prevalent.

This district, in company with the neighboring and lower district, the Sixth, had each a case of yellow fever to record against them for 1879. No case or anything even suspicious appeared throughout the past year, 1880.

The premises wherein the death occurred, and above referred to, received the same careful attention in the way of disinfaction and other preventive measures that its fellow in the Sixth District received.

In great part the good health of the district is to be attributed to the better drainage attending this district than that of many of the others, its mean elevation being about fourteen inches over and above that of the First and Second Districts.

PUBLIC BUILDINGS.

The public buildings in the Seventh District number in all twenty-one, sub-divided as follows: Twelve churches, two fire-engine houses, one court house, a jail building, police station, market and three public schools.

These various buildings have been duly inspected during the year, and with the exception of the court house, jail and police station, were found to be in a satisfactory sanitary condition; the court house has been long in need of repair, and the neglect to attend to the same is sadly affecting the appearance and usefulness of the building. A comparative small outlay at the present time, would unquestionably save to the city a considerable outlay of money.

If the court house is in bad condition, what must be said of the jail and police station?

The jail, a brick building of two stories, and without the slighest pretense to sanitary requirements in its architecture, is literally falling to pieces; new joists are wanted, the floors are rotten and wan ing in many places, the stair-way rickety and unsafe, many of the prison cells have had to be abandoned, no longer being inhabitable or secure for confinement of the prisoners, and in toto the building is but a shell, and a most decidedly unhealthy one, even admitting that its use is confined only to the criminal classes.

It is estimated that over one hundred barrels of bat manure were removed last September, the accumulation of years, leaving yet in great numbers the source of the annoyance.

Various grand juries in their reports have called attention to the digraceful condition of this building and its present unfitness for the confinement of criminals, and surely it is about time that some attention was devoted to it.

PRIVY SYSTEM.

Though the privy system in vogue in the Seventh District, and I believe confined to this one district is rather simple in character and of primeval origin, it consisting of an excavation in the soil some four to six feet square and over which is placed a light wooden enclosure easily movable, I earnestly believe that but little of the bad unhealthy effects are produced which are assigned and now generally accepted, to the brick, and cemented and stationary vaults of the other districts.

For when this trench is no longer serviceable, the contents are disinfected, earth is thrown in covering the space in use completely, and the house is moved to another spot. The localities for erecting these temporary buildings are selected as far from the dwelling as possible, consequently the inmates are decidedly more fr e than those residing in the more densely populated districts of the city, where the closet is permanently built, and in the majority of cases forming part of the main building.

I do not desire to have it understood that this character of vault and the system described, applies to all of the residences in the district, for such is not the case, as there are localities in which it would be impracticable and deleterious to the public health.

MARKETS.

One market centrally located, supplies the wants of the district in this respect; the meat sold is unusually good, and cleanliness is an ever present feature of the building.

DAIRIES.

The dairies are extremely numerous in this district, numbering over fifty, the majority of which are lo cated on Carrollton avenue.

They received a careful visit and inspection in the early part of September, and but small complaint can be found against them; they are generally clean and out-buildings in good order.

MORTALITY.

The mortality of the district during the past year has not been great, the total number of deaths being one hundred and twenty-eight (128), a death-rate of 20.52 per thousand.

Since 1877 not a death from small-pox has occurred in the district.

I have prepared a tabulated statement of the mortality of the district for the year, in which is shown all the deaths from the principal diseases, showing the per centage for each of the months of the year.

COMPARATIVE RATES OF MORTALITY IN NEW ORLEANS DURING THE YEAR 1880, AND IN THE PRECEDING YEARS —SANITARY MEASURES NECESSARY TO THE HEALTH OF NEW ORLEANS—MORTUARY STATISTICS.

The total deaths from all causes in the city of New Orleans during the year 1880, numbered 5623, and the death rate per 1000 inhabitants was 25.98.

With the exception of two years (1827 and 1879) the death rate of 1880 was lower than that of any year since 1787, of which any records have been preserved.

In 1827, the death rate was 24.56 per 1000 and in 1879, 23.94 per 1000.

It is of the highest importance that a general view of the mortuary statistics of New Orleans should be presented, in order that the effects of sanitary and quarantine measures should be clearly defined. It should be shown by the past and present mortuary records whether the death rate per 1000 inhabitants be decreasing or increasing; whether certain diseases are increasing or diminishing in fatality, and whether differences exist in the rates of mortality amongst the different races which compose the population of New Orleans.

In order to throw light upon these important questions, the following comprehensive statement of the mortality statistics of New Orleans with the accompanying charts have been prepared:

The tabular view of the mortuary statistics of New Orleans, contains the following tables enumerated in regular order as they have been placed upon the chart:

(*a*). *Table illustrating the relations of the population of New Orleans, to the total mortality from all causes, during a period of ninety-four years.*

(*b*). *Table illustrating deaths and death rate from all causes and from yellow fever in the city of New Orleans, during a period of sixty-four years.*

(*c*). *Table illustrating the mortality from some of the principal diseases and total mortality, together with the death rate per 1000 inhabitants of the different districts of New Orleans, for the year 1880.*

(*d*). *Census of the State of Louisiana, from the tenth census of the United States*, 1880.

(*e*). *Comparative tables of mortality by months, during the twelve years*, 1869 *to* 1880, *showing deaths from some of the principal diseases; total number of deaths according to race and color, and death rate per annum.*

(*f*). *Table showing deaths diarrhœal diseases, by months during the twelve years* 1869–1880 *inclusive.*

(*g*). *Table showing deaths from phthisis pulmonalis, during twelve years* 1869–1880 *inclusive.*

(*h*). *Table showing deaths from malarial fevers by months, during twelve years* 1869–1880.

(*i*). *Deaths in the Charity Hospital, City of New Orleans, during the year* 18[illegible]0.

From the preceding data, as well as from the vital statistics and meteorological records of this city, the accompanying *charts have been prepared, illustrating the increase of population in the city of New Orleans, during a period of ninety-four years, together with the total mortality for each year, and the death rate per 1000 inhabitants per annum, also deaths from yellow fever, mean maximum and minimum temperature and rain fall for a number of years.*

Without, at the present moment, entering into an exhaustive discussion of the data recorded in the accompanying tables and charts, the following points of general interest may be noted:

1. It will be observed that the maximum death rate per 1000 inhabitants was attained in the year 1832, 147.01 of every 1000 inhabitants of New Orleans died. In that year (1832) both cholera and yellow fever prevailed as epidemics.

The next highest death-rate was in the memorable year 1853, when the mortality per 1000 inhabitants was 102.42, and the deaths from yellow fever alone caused nearly one-half of the total mortality—namely, 7849 out of 15,787 deaths from all causes, or 50.90 per 1000 inhabitants.

The year 1878 will be distinguished by the diffusion of yellow fever over a considerable area and by the wide spread alarm excited in the Valley of the Mississippi by the ravages of this pestilence. The rate of mortality, however, in 1878 was less than one-half that of 1853, being 50.70 per 1000 inhabitants from all causes, and 19.20 from yellow fever; and it was only a little more than one-third that of 1832; and it was exceeded by that of 1787, 1796, 1810, 1811, 1815, 1817, 1819, 1820, 1822, 1825, 1829, 1832, 1833, 1834, 1835, 1837, 1839, 1841, 1844, 1847, 1848, 1850, 1851, 1852, 1853, 1854, 1855, 1858 and 1867.

2. There has been an evident decline in the death-rate of New Orleans during the past twenty years—1860-1880. Of course we do not in this statement fail to note the high death-rate (55.57) of 1867, caused by cholera and yellow fever; of 1873 (40.19) and of 1878 (50.70), embraced to the period 1860--1880. The decline of the mortality rate during the period specified (1860-1880 is shown by the oscillations of the heavy black line on the chart, which represents the death-rate per 1000 inhabitants per annum from all causes.

The same fact is also illustrated by the following statement of the years, presenting the lowest death-rate per 1000 inhabitants in New Orleans during the past ninety-four years: 1812, 32.50, 1816, 27.93; 1821, 39.57; 1826, 30.61; 1827, 24.56; 1828, 32.89; 1831, 36.71; 1838, (36.77; 1840. 39.11; 1845, 31.17; 1856, 35.24; 1857, 34.07; 1861, 33.97; 1862, 36.10; 1868, 28.96; 1869, 29.79; 1870, 36.26; 1871, 31.24; 1872, 33.54; 1874, 35.71; 1875, 32.05; 1876, 32.39; 1877, 34.32; 1879, 23.94; 1880, 25.98.

This decline in the mortality rate may be referred to several causes: (*a.*) The stationary condition of the population during the period specified (1860-1880), as shown by the line in the chart representing the increase of population in New Orleans during the past 94 years. It is clearly shown upon the chart that the periods characterized by the highest death-rates were precisely those periods in which the city increased most rapidly by additions from surrounding States and foreign countries; (*b.*) the relative preponderance during these latter years of a native-born and acclimated population; (*c.*) the diminution of the number of seamen entering this port, on account of the substitution of large iron steamships for wooden sailing vessels; (*d.*) the institution of more rigid quarantine regulations and measures; (*e.*) increased drainage in the rear portions of the city; (*f.*) certain sanitary measures, as the cleansing and disinfection of privies and the removal from the city limits of night soil and garbage.

3. As far as the statistics recorded in these tables extend, they tend to sustain the view that the establishment of quarantine at the mouth of the Mississippi and at the Rigolets and on the Atchafalaya by the State of Louisiana, has tendered to diminish the frequency of yellow fever epidemics; thus from the establishment of the quarantine in 1855 to the end of 1880 (25 years) there have been but three epidemics of yellow fever of any magnitude, namely: in 1858, 1867 and 1878; whilst in the preceding 39 years (1817-1855) no less than 19 severe visitations of yellow fever have been recorded.

4. During the past seven years (that is during the period in which we have data for the calculation) the death rate has almost invariably been higher amongst the colored population than amongst the whites. The result is at variance with the popular opinion that in tropical and semi-tropical cities the black race enjoy a greater immunity from diseases, and especially from the various forms of fever than the white race. The increased rate of mortality amongst the blacks may be referred to such causes as: (*a.*) improvidence in living; irregular habits; poor diet; (*b.*) neglects of the sick; indifference to medical aid; neglect of vaccination; (*c.*) crowding and imperfect ventilation; (*d.*) less vital power or capacity to resist the ravages of disease; (*e.*) ignorance of, and violation of physiological and sanitary laws.

Many of these causes are capable of removal or amelioration. With advance of knowledge, and the acquisition of property by the colored race, there will be a corresponding diminution of the death rate.

5. Phthisis pulmonalis appears to destroy as many lives in New Orleans as yellow and malarial fevers combined. Thus during the past twelve years, 1869-1880 inclusive, phthisis pulmonal is caused 9,800 deaths, yellow fever 5,102 and malarial or paroysmal fevers 4,854 deaths.

6. If the mortality of the past six years (1875-1880) be compared with that of the previous six years, 1869-1874, it will be found that the deaths of the first named period exceed but to a slight degree those of the latter, notwithstanding the epidemic yellow fever of 1878. Thus:

Total mortality for six years, 1869-1874	40,370
Total mortality for six years, 1875-1880	41,851
Excess of mortality during six years, 1875-1880	1,481

A portion of this difference is due to the increase of population.

This period may be characterized in the sanitary history of New Orleans, as that of the experimental use of disinfectants, and more especially of *carbolic acid.*"

Under the direction of Dr. C. B. White, President of the Board of Health (1869--1875 inclusive), carbolic acid was more extensively used than in any ether city. From the data now at hand, we find that the city of New Orleans paid the following sums for disinfectants of which carbolic acid formed the chief item.

Amount paid by the city of New Orleans for disinfectants ordered by the Board of Health: 1870, $2,851.77; 1871, $2,448.21; 1872, not recorded; 1873, $16,069.83; 1874, $2,482.35; 1875, $12,376.35; total $35,128.51.

The amount stated ($35,128.51) simply represents the amount actually paid by the city, and entered upon the records; outstanding claims are not included.

The opinion prevailed that yellow fever could be controlled and even arrested by the free use of carbolic acid; but the result of the epidemic of the year 1878, when $12,207.22 were expended for disinfectants, and more especially carbolic acid, scattered to the winds that belief that certain disinfectants, and especially carbolic acid, possessed any specific control over *epidemics* of *yellow fever.*

The signal failure of the experiments with carbolic acid disinfection, was followed by the wild panic and shot-gun quarantines of 1880.

MORTALITY OF 1880.

The accompanying charts illustrate the relations and changes of temperature—humidity and barometric pressure—to the death-rate per 1000 inhabitants during the year 1880.

The charts illustrate so fully and clearly the relations of the death-rate to meteorological conditions that any detailed explanation is unnecessary. The following points, however, are worthy of especial notice.

1. The highest mortality of 1880 occurred during the week ending the 12th of June.

2 During the six months ending June 30, 1880, the rain fall was 29.69 inches, the mean temperature 69,20°, mean barometer 30.07° ; total death-rate per 1000 population, 26.84 ; whites 23.43, colored 36.35.

During the six months ending December 31, 1880, the rain fall was 37.68 inches ; mean temperature 69.80° ; mean barometer 30.09°; total death-rate 25.19 ; whites, 22.28 ; colored, 33.33.

It is evident that the death-rate diminished during the last six months of the year in which yellow fever most generally prevails.

3. Throughout the year 1880, the death-rate of the colored race exceeded largely that of the whites.

4. If the deaths amongst the colored population be excluded from those amongst the white race, it will be seen that during 1880 the white inhabitants of New Orleans enjoyed a remarkable immunity from fatal diseases, and that this city was probably as exempt from fatal forms of disease amongst the white inhabitants as any other city of similar size in America or Europe.

RELATIVE MORTALITY IN THE SEVERAL DISTRICTS OF NEW ORLEANS.

From the table illustrating the *mortality from some of the principal diseases and total mortality together with the death-rate per* 1000 *inhabitants of the different districts of New Orleans, for the year* 1880, the following important results are established :

(*a*). First District : Total deaths 1393 ; whites 884 ; colored 509 ; death rate per 1000 inhabitants : whites, 20.40 ; colored, 36.10 ; death rate white and colored 29.24. In this district the death rate amongst the whites will compare favorably with that of any city in the Western or Eastern Hemisphere, whilst the death rate of the colored population, although higher than that of the whites, will compare favorably with that of the descendants of the African race in any large city in the United States. It is believed and hoped that the humane efforts of the Board of Health of the State of Louisiana will still further reduce the death rate amongst the colored population.

In the Second District total deaths, 1115 ; whites 699, colored 416. Death-rate per 1000 inhabitants, whites 22.28, colored 31.27. Total death-rate, whites and colored, 24 86. In the Second District, which lies below Canal street and embraces the first settled portions of New Orleans, or the "*city proper*," of Bienville, the death-rate was only a fraction in excess of that of the First District. This difference may be referred to the fact that there are a larger number of tenement houses in which are congregated foreigners, and especially natives of Sicily and Italy. Repeated orders were issued by the Board of Health for the cleansing and disinfection of the crowded portions of the Second District.

In the First District extending from Canal street to Felicity road, is located the new basin and canal connecting with the lake, and in the Second District extending from Canal to Esplanade street, is located the old basin and canal originally constructed by the Baron Carondelet, and commuicating with the lake by the Bayou St. John.

Both the First and Second Districts, receive through the canals and basins, a considerable amount of shipping and a corresponding number of seamen.

The First District received a considerable amount of water by the flushing apparatus of the Auxiliary Sanitary Association, a portion of which found an exit on Camp street and Melpomene canal. No case of yellow fever was reported in the Second District which had not the advantage of the flushing, whilst but three cases were reported in the First District, which have been fully detailed in the report.

In the *Third District* total deaths 1,161 ; whites 774, colored 387 ; death-rate per 1000 inhabitants, whites 22.94. colored 32.62. Total death-rate 25.47.

In the Third District, extending from Esplanade street to the lower limits of the parish of Orleans, a large portion towards the swamps and lake is ill drained and subjected to the action of malaria ; and the statistics show that the deaths from the various forms of malarial fever were relatively more numerous; thus deaths from malarial fever —First District, 74 ; Second District, 62 ; Third District, 82.

Without doubt, a proper system of drainage and sewerage would reduce the deaths from malarial fever to the minimum.

The cultivation of rice has been inaugurated in the rear of this district, and a portion of the sickness and mortality in this district must be referred to this the most pernicious of all forms of agriculture. The Legislature of Louisiana, the City Council of New Orleans and the Board of Health, should consider the subject of rice culture in its relations to the health of the City of New Orleans, and such ordinances should be considered and passed as will protect the inhabitants from the effects of the destructive emanations of rice fields.

In the Fourth District total mortality 720; whites 506, colored 214; death rate per 1000 inhabitants: whites 16.52, colored 30.96 Total death rate, whites and colored, 19.18.

In the Fourth District the whites predominate greatly over the colored, and a large proportion of the inhabitants of the garden district of New Orleans, amongst whom may be mentioned its successful merchants and business men, absent themselves from the city during the hot months of Summer and Autumn, seeking health and amusement at American and European resorts of health and pleasure.

The deaths from malarial fever in 1880 in the Fourth District number 42. It should also be noted that this district offers a far less front to the woods, the swamp and the lake than the First, Second and Third Districts. This district received the benefits of the flushing system.

In the Fifth District the total mortality was 142; whites 91; colored 51; death rate per 1000 inhabitants: whites 18.12; colored 13.30; total death rate whites and colored 16.03.

The Fifth District gave the lowest mortality in 1880 of any District within the bounds of the Parish of Orleans. This district, which occupies the opposite bank of the river and may be regarded as a separate city, received none of the benefits of the flushing system of the Auxiliary Sanitary Association of New Orleans. Such facts illustrate the nature of the claim that the running of water through the gutters of the Fourth District and through a portion of the gutters of the First District, preserved the City of New Orleans from yellow fever in 1880. The Board of Health has given its countenance and support to all rational efforts to improve the health of this city, and recognizes the labors of its officers in the cleansing and disinfection of privies, the prompt removal of garbage, the disinfection and cleansing of all premises in which cases of yellow fever, typhoid fever, scarlet fever, measles and small pox have occurred.

In the Sixth District, the total deaths numbered 329; whites, 196; colored, 123. Death rate per 1000 inhabitants: whites, 16.40; colored, 30.16. Total death-rate per 1000 inhabitants, 20.52.

The colored population of the Sixth District, dominated in a measure the low death-rate of the whites 16.40, which would compare favorably with the death-rate of any similar congregation of white inhabitants in any portion of the civilized world.

We have in this report recorded the relative population, white and colored, of the city of New Orleans. From this table it will be shown that the colored population is not uniformly distributed in the districts of New Orleans.

In the Sixth District malarial fever caused ten deaths and in the Fifth District seven.

In the Seventh District the total deaths numbered 128—whites 62, colored 66. Death-rate per 1000 inhabitants—whites 19.92; colored 21.12; total death rate per 1000 inhabitants 20.52. In this district the colored people, as in the Fifth District, are more comfortably situated, owning more property and being less crowded, and being also at the same time less subjected to the excitement and vices of the thickly populated portions of New Orleans, and we find a proportionately lower death-rate.

As the outcome of this investigation the Board of Health has the following important results.

FIRST DISTRICT.

Death-rate per 1000 inhabitants 24.24; whites 20.40, colored 36.10.

SECOND DISTRICT.

Death-rate per 1000 inhabitants 24.96; whites 22.28, colored 31.27.

THIRD DISTRICT.

Death-rate per 1000 inhabitants 25.47; whites 22.94, colored 32.62.

FOURTH DISTRICT.

Death-rate per 1000 inhabitants 19.18; whites 16.52, colored 30.96.

FIFTH DISTRICT.

Death-rate per 1000 inhabitants 16.03; whites 18.12, colored 13.30.

SIXTH DISTRICT.

Death-rate per 1000 inhabitants 20.62; whites 16 40, colored 30.16.

SEVENTH DISTRICT.

Death-rate per 1000 inhabitants 20 52; whites 19.92, colored 21.12.

From the preceding statistics it must be evident to every honest observer that this year (1880) must be regarded as a period free from any pestilential and fatal influences

in New Orleans, and the earnest hope may be expressed that the Ruler of all things, will continue to vouchsafe to the people a similar exemption, in the future from epidemic diseases.

The statistics of 1880, render it evident that there is nothing in the climatic and topographical conditions of New Orleans, which precludes it from being the healthiest city in America or Europe.

With thorough sanitary regulations, with the prompt removal of all garbage and fœcal matters and with the constant destruction of the poisons of all infectious and contagious diseases, by efficient and active sanitary officers, and with a rigid but enlightened quarantine, the Board of Health may sincerely hope for continued immunity from pestilential diseases.

The absence of pestilential diseases from New Orleans and from the valley of the Mississippi, will be followed by prosperity to all classes, and by a marked physical and moral development of all the various races congregated in the metropolis of the West.

SANITARY MEASURES AND REFORMS.

PROTECTION FROM OVERFLOW—DRAINAGE AND SEWERAGE

The great sanitary problems of New Orleans are :

1. *Protection of the city from overflow, by substantial levees elevated at least two feet above the line of the highest waters.*
2. *Thorough surface and subsoil drainage.*

Under this head should be included the reclamation of the swamps in the rear of the city, and perfection and proper grading of gutters and surface drains, and the proper excavation, perfection, cleansing and flushing of the canals which receive the storm waters and those continually yielded by the gutters.

3. *The immediate and continuous removal of all fœcal matters·*
4. The daily removal of garbage by an efficient scavenger force.
5. *The constant repair and cleansing of the streets.*
6. *Paving the streets with the most substantial materials.*

Thus far the square block pavement has proved to be best adapted to the peculiar soil and location of New Orleans. The same form of gravel and small stones as those employed at the jetties by Captain Eads might be used upon many of the dirt streets. This gravel may be obtained in large quantities from an island in the Mississippi river above Baton Rouge, and might be brought down in large quantities in flat-boats and landed on the river front in any of the various districts of the city. The shells employed upon certain of the streets are, in the course of time, reduced to an impalpable powder, which forms a diffluent mud in winter, and affords an irritating dust in dry weather.

The gravel from Profit's Island on the Mississippi river, is composed chiefly of silex and silicates of the hardest description, which have resisted the action of the elements for unknown ages.

7. Abundant supplies of river water for the use of the inhabitants and for the cleansing of private premises, and the purification of the markets, gutters and streets.

The highest interests of the citizens of New Orleans, demand the institution of a rigid scientific investigation by the most skilled engineers of the United States and Europe, of the drainage and sewerage of this city.

A properly constituted commission of civil and military engineers might devise a plan of protection from overflow, and of surface and subsoil drainage, and of sewerage, which may be capable of progressive execution and expansion during indefinite periods in the future, and in accordance with the growth of the city.

Every system of sewerage and sub-soil drainage must be adapted to the peculiar topography of the land occupied by the city.

The following facts must be considered:

(*a*). The land on which New Orleans is built is protected from overflow of the Mississippi River by a continuous levee from the beginning of its river front to the ending of it, a distance of about twelve miles. The levee has an elevation above the natural soil of from six to ten feet.

The land upon which New Orleans is built *falls* from the river back to Claiborne street one mile, where it is twelve feet below the river.

In high water the entire area occupied by the city of New Orleans is below the level of the Mississippi River.

It is equally necessary to protect the rear of the city by a system of powerful levees, from overflows from the lake.

It frequently happens that the level of the lake is above that of a large portion of the land occupied by the city.

The basin occupied by New Orleans is further diversified by a ridge of land. On either side of the Metairie Ridge the land slopes in one direction towards the lowest depression towards the river, and in the other towards Lake Pontchartrain.

From these natural conditions, the subsoil of a large area of the city of New Orleans is perpetually saturated with water.

At the present time New Orleans is drained by large canals thirty-five miles long, which receive the surface water of over 300 miles of gutters.

At the present time these canals are more than one-half full of the foul deposits washed down through the gutters of the city.

(*b*). According to the city map of Mr. W. H. Bell, the inclosure within the protection levees measures 26,026 acres, which, if populated with forty persons to an acre, would give 1,041,040 persons. If the daily excrements of this population per head be estimated at three pounds, the entire amount would equal 569,970 tons in one year.

But if with Civil Engineers, we consider the present city to lie on the slope between the river and Claiborne street, which contains between the upper and lower protection levees, 9,319 acres, and 30 persons to an acre, it will give a population of 372,760. The daily excrements of this population would be 1,118,280 pounds, and would require to move it daily 1,118 carts, each taking half a ton at a load, or it would take 204 of the largest ships that come to New Orleans to carry a year's filth from the city, without calculating the refuse from cattle, horses and other animals.

During the present year, it has been attempted to remove a portion of the excrements stored up in the privies of the city, by the so-called "*air-tight*" and "*odorless*" barrels and carts, to the nuisance boats, to be towed below the city limits and dumped into the Mississippi river.

If we estimate the present population of New Orleans at 220,000 inhabitants, and allow five inhabitants to each house, we have 44,000 houses.

It is possible that in many cases two or more dwellings are served by a single privy vault.

If the total number of privies in the city of New Orleans number about 40,000; and if the cost of emptying each of those privies be about $5 five dollars), then it is evident that the emptying of the privies of New Orleans, annually cost $200,000.

In ten years the cost of emptying the privies of New Orleans only once annually would reach the enormous sum of $2,000,000 (two million dollars.) And at the end of this period there would be no permanent works of sewerage or drainage and no substitute for the wretched privy system now used.

To the above estimate must be added the cost of disinfectants to destroy the foul gasses, and more especially the poisonous sulphureted hydrogen and sulphuret of ammonia perpetually generated in these foul storehouses of filth.

With all the efforts of the sanitary officers it must be admitted that the garbage and nuisance boats and even the apparatus for emptying the privies are foul and unbearable nuisances

(c.) The streets of New Orleans open and requiring cleaning and repairing have been classified as follows: Square block pavement, 22 06 miles; cobblestone, 38.00 miles; bal ast roads, 19.07 miles; shell roads, 26 54 miles; plank roads, 5.00 miles; dirt streets, 472.34 miles. We have, then, nearly 500 miles of dirt streets, not including those not in general use.

There are also to be built and kept in repair 191 canal bridges, 5180 wooden street bridges, 459 stone crossings, 580 iron street bridges, and 3301 wooden street crossings, together with the nine navigation bridges over the New Canal, the Carondelet Canal, and Bayou St. John.

In wet weather the dirt streets become impassable quagmires, and from the failure of the garbage carts they become the receptacle of garbage and filth of every description;

Added to this the rear portions of the city have been overflowed upon several occasions by the waters of the lake, and incalculable suffering and hardship have been inflicted upon the inhabitants.

A thorough system of protection from overflow, combined with an effective system of sewerage and underground drainage, will practically elevate the dirt streets into dry roads and highways suitable to the purpose of transportation and commercial intercourse.

(d.] Without doubt a large number of the diseases of New Orleans are, to a certain extent, dependent upon the saturation of the atmosphere with moisture, and, under certain circumstances, with foul exhalations from privies and gutters and ill-drained and ill-ventilated premises, and from the filthy drainage canals.

The foul exhalations may, to a great extent, be removed by a prompt removal of all fœcal matter and garbage. The moisture may be greatly diminished by thorough surface and sub-soil drainage.

In this connection the following important facts should be noted:

During the past twelve years, the average number of deaths caused by phthisis pulmonalis alone was 816, giving a grand total during this period 1869 to 1880, of 9,800 deaths.

One in 248 of the inhabitants of New Orleans die annually of phthisis pulmonalis.

It will be seen from the following table that the percentage of deaths from phthisis pulmonalis, varies in the different districts of New Orleans:

TABLE SHOWING NUMBER OF DEATHS BY PHTHISIS PULMONALIS IN THE DIFFERENT DISTRICTS OF THE CITY OF NEW ORLEANS, AND DEATH RATE PER 1000 INHABITANTS PER ANNUM.

DISTRICTS	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.	Death Rate per 1000 per Annum.
First District	21	15	27	22	21	17	22	15	6	12	25	19	222	3.86
Second District	5	18	12	14	14	18	10	8	16	18	20	15	168	3.76
Third District	10	7	9	11	10	14	6	12	15	11	14	16	135	2.96
Fourth District	7	15	12	9	6	6	3	9	8	7	16	16	114	3.37
Fifth District	1	.....	3	1	1	2	.....	4	3	1	5	1	25	2.82
Sixth District	4	3	4	2	6	2	3	.....	.....	3	.....	4	29	1.80
Seventh District	.....	.....	3	1	.....	1	.....	.....	.....	.....	3	1	9	1.44
Total	48	58	70	60	58	60	44	48	48	52	83	73	702	3.25

The mortality is greater in the most crowded districts, being in the First 3.86 per 1000 inhabitants, Second District 3.76, Third 2,96, Fourth 3.37, Fifth 2.82, Sixth 1.80, Seventh 1.44.

During the same period, 5,144 deaths were caused by diarrhœal diseases, or on an average 428 deaths each year, are caused by these diseases.

Four thousand eight hundred and fifty-four deaths were caused during this period by malarial fevers, or 404 deaths per annum. This class of diseases appear to be directly related to defective drainage.

During the period of twelve years therefore, (1869-1880) phthisis pulmonalis, diarrhœal diseases and malarial fevers, caused in the city of New Orleans, 19,798 deaths, whilst during the same period yellow fever caused only 5102 deaths as shown in the following table:

DEATHS BY YELLOW FEVER IN NEW ORLEANS DURING THE TWELVE YEARS, 1869-80.

YEAR.	June.	July.	August.	September.	October.	November.	December.	Total.
1869	.....	1	.....	.....	2	.....	.....	3
1870	1	.....	3	231	242	106	5	588
1871	.....	.....	2	9	22	19	2	54
1872	.....	.....	1	5	24	7	2	39
1873	.....	3	19	108	79	17	.....	226
1874	.....	.....	.....	2	6	2	1	11
1875	.....	.....	5	24	20	9	3	61
1876	.....	.....	1	20	15	4	1	41
1877	.....	.....	.....	.....	.....	1	.....	1
1878	.....	26	1025	1780	1065	147	3	4056
1879	.....	3	4	7	5	.....	.....	19
1880	.....	1	.....	.....	1	.....	.....	2
Total	1	34	1060	2186	1481	312	17	5102

The entire attention of the inhabitants of the Mississippi Valley is concentrated upon New Orleans, to the detriment of her commerce and fair name, on account of the occasional existence of yellow fever in the epidemic form; and her people are prone to regard this disease of far greater importance than phthisis pulmonalis, diarrœhal diseases and malarial fevers, which perpetually claim a far greater number of victims.

It is possible by a proper system of drainage and sewerage to greatly reduce the mortality from phthisis pulmonalis, diarrœhal diseases and malarial fevers.

But any philosophical and successful system must be based upon the peculiar topography of New Orleans, situated below the high water lines of the river front and of the lakes in the rear.

(e.) Every system of sewerage and drainage adapted to New Orleans, must depend for its ultimate success upon the use of powerful pumps to lift up the liquids and project them into the Mississippi River below the limits of the city.

(f). The construction of a drainage and navigatien eanal circumscribing the city and connecting the waters of the Mississippi above Carrollton with those below the Barracks promises great hygienic and commercial advantages.

To render the canal available at once to the purposes of navigation, drainage and sewerage, it should not be less than thirty feet below low-water in the river and should be not less than three hundred feet in width.

Such a project could only be successfully executed by the combination of great capital, and the co-operation of the General Government.

The protection of the city from overflow, and thorough drainage and sewerage will, without doubt, render New Orleans one of the healthiest cities in the world, and do more to ward off destructive epidemics, and restore confidence in her own citizens and in those of surrounding States than even the most rigid and effective quarantine.

PROTECTION OF THE CITIZENS OF LOUISIANA FROM UNQUALIFIED PRACTITIONERS OF MEDICINE, AND THE EXTENSION OF THE REGISTRATION OF MARRIAGES, BIRTHS AND DEATHS, TO THE ENTIRE STATE.

Article 178 of the Constitution of the State of Louisiana, adopted in 1879, ordains that :

"The General Assembly shall provide for the interest of State Medicine in all its departments; for the protection of the people from unqualified practitioners of medicine; for protecting confidential communications made to medical men by their patients while under professional treatment; for the establishment and maintenance of a State Board of Health."

In order to diffuse a correct knowledge of all subjects relating to the important subjects, concerning the constitution and execution of quarantine, and the laws relating to sanitary and medical subjects, and to the protection of the people against the introduction and spread of contagious diseases, and to the registration of marriages, births and deaths; the Board of Health of the State of Louisiana published in the month of September, 1880, a large edition of the "*Acts of the Legislation of Louisiana establishing and regulating quarantine for the protection of the State; organizing and defining the powers of the Board of Health and regulating the practice of medicine, midwifery, dentistry and pharmacy; also rules and regulations of the Board of Health of the State of Louisiana, and Health Ordinances of the City of New Orlrens, quarantine and sanitary.*"

These laws, ordinances and rules, collected and classified by the President of the Board of Health, were distributed to the State officers, judges, city authorities and the prominent physicians and sanitarians of Louisiana.

As the population of New Orleans numbers not more than one-fourth of that of the entire State, it is evident that great benefit would accrue to the entire State, by extending many of their provisions, which now relate exclusively to the parish of Orleans, to every city, town and parish in the State.

The sanitary and social advancement of the State would be especially promoted by the extension of the laws regulating the registrations of marriages, births and deaths, to every portion of the State.

Such statistics would prove of marked value in all respects, but especially as establishing a knowledge of the most fatal diseases and determining the death-rate and prevailing diseases in different localities and amongst the different races.

Such data would form the necessary foundation for sanitary reform and advancement.

TABLE ILLUSTRATING DEATHS IN THE FIRST DISTRICT OF THE CITY OF NEW ORLEANS DURING THE YEAR 1881.

NAMES OF DISEASES.	January.		February.		March.		April.		May.		June.		July.		August.		September.		October.		November.		December.		Total.		Total.
	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W&C
Malarial Fevers	2	1	2	1	2	....	5	....	1	2	16	3	4	4	6	5	13	7	5	4	6	4	5	1	67	31	98
Typhoid Fever	2	....	....	....	....	2	....	....	1	....	....	....	....	....	1	....	....	1	2	....	3	1	....	1	9	5	14
Scarlet Fever	7	....	3	1	8	1	14	2	3	3	2	1	....	2	....	....	....	....	....	....	2	....	2	....	41	10	51
Measles	....	....	....	....	....	....	2	....	3	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	5	0	5
Small-Pox	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Diphtheria	8	....	5	....	1	....	3	....	2	....	....	....	1	....	....	....	1	....	2	....	3	....	....	....	26	0	26
Diarrhœal Diseases	2	....	1	2	3	....	....	2	7	3	5	8	5	3	3	2	3	3	6	2	8	3	7	2	50	30	80
Congestion of Brain	2	1	2	....	....	....	1	....	5	2	14	1	4	3	....	3	3	2	7	....	....	....	6	....	44	12	56
Sun-stroke	....	....	....	....	....	....	....	....	....	....	6	1	2	....	....	1	....	....	....	....	....	....	....	....	8	2	10
Convulsions	....	2	3	2	3	2	10	1	4	2	....	1	2	2	1	5	2	1	5	1	3	....	....	....	33	19	52
Phthisis Pulmonalis	16	15	9	5	16	13	9	14	12	8	11	3	14	6	6	11	6	7	8	11	8	15	11	11	126	119	245
Deaths from all other causes	65	21	52	25	65	35	61	39	78	30	91	30	69	32	56	33	41	28	47	24	45	32	51	30	721	329	1050
Total number of Deaths	104	40	77	36	98	53	105	58	116	50	145	48	101	52	73	60	69	49	82	42	78	55	82	45	1030	588	1618
Death rate per 1000 Inhabtants per annum. White	28.80		21.30		27.10		29.03		32 13		40.16		27.97		20.22		19.11		22.71		21.60		22.71		23.77		27.81
Colored	33.97		30.58		45.02		49.27		42.47		40.77		44.17		51.81		41.62		35.67		46.72		38.22		41.62		
Total White and Colored	30.08		23.60		31.54		34.05		34.71		40.31		31.96		27.78		24.64		25.90		27.78		26.52				
Malarial Fevers	.62		.62		.41		1.04		.62		3.96		1.67		2.29		4.17		1.88		2.08		1.25		1.70		1.70
Phthisis Pulmonalis	6.47		2.95		6.05		4.80		4.17		2.92		4.17		3.55		2.71		3.96		4.80		4.59		4.26		4.26
Number Still-born Children	7	4	1	2	4	1	5	2	2	1	6	5	3	1	2	6	6	5	7	4	7	12	2	4	52	47	99

TABLE ILLUSTRATING DEATHS IN THE SECOND DISTRICT OF THE CITY OF NEW ORLEANS DURING THE YEAR 1881

NAMES OF DISEASES.	January.		February.		March.		April.		May.		June.		July.		August		September.		October.		November.		December.		Total.			Total.
	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.		W&C
Malarial Fevers	2	....	1	1	3	5	5	3	1	3	6	4	7	4	6	3	11	3	7	4	1	3	3	1	53	34		87
Typhoid Fever	3	....	3	....	2	1	....	1	....	1	....	....	1	....	....	1	1	1	1	3	2	2	2	1	15	11		26
Scarlet Fever	2	....	3	....	3	3	4	5	3	5	2	....	1	....	....	1	....	....	....	....	....	....	....	....	18	14		32
Measles	....	....	2	....	....	....	1	1	1	....	2	2	....	1	....	....	....	....	....	....	....	....	....	....	6	4		10
Diphtheria	....	....	....	1	3	1	....	....	2	....	....	1	....	1	3	1	1	1	....	1	....	..	2	....	11	7		18
Diarrhœal Diseases	1	1	1	4	2	2	2	....	15	4	13	10	2	3	2	3	3	3	5	1	2	2	2	1	50	34		84
Congestion of Brain	2	1	3	1	2	...	1	1	3	....	9	1	3	2	2	1	....	....	1	....	1	....	....	1	27	8		35
Sunstroke	....	....	....	....	....	....	....	....	....	....	6	2	1	....	....	....	....	....	....	....	....	....	....	....	7	2		9
Convulsions	1	....	..	....	....	....	2	5	3	2	....	....	3	....	3	....	1	1	1	2	....	..	....	....	15	13		28
Phthsis Pulmonalis	10	4	13	5	6	8	15	9	11	7	7	6	10	6	4	6	2	9	5	6	6	5	10	4	99	75		174
Deaths from all other causes	40	28	34	23	33	30	34	13	41	30	50	28	35	17	35	18	27	15	31	19	35	39	42	24	437	284		721
Total number of Deaths	61	34	60	35	55	53	64	38	80	52	95	54	62	34	55	34	46	33	51	36	47	51	61	32	738	486		1224
Death rate per 1000 Inhabitants per annum, White	23.33		22.95		21.04		24.45		30.60		36.34		24.10		21.04		11.22		19.53		17.98		23.33		....	....		.....
Colored	30.57		31.57		47.81		34.28		46.91		48.91		30.67		30.67		29.77		32.47		46.01		28.87		23.52	36.53		27.40
Total white and colored	25.51		25.51		29.91		27.40		35.46		40.02		26.05		23.90		21.22		23.37		26.10		24.98		.....	.....		.....
Malarial Fever	0.7	0.0	0.3	0.9	1.1	4.5	1.9	2.7	6.3	2.7	2.2	2.9	2.6	3.6	2.2	2.7	4.2	2.7	2.6	3.6	0.3	2.7	1.1	0.9	1.6	2.5		1.9
Phthisis Pulmonalis	3.8	3.6	4.9	4.5	2.2	7.2	5.7	8.1	4.2	6.3	2.6	5.4	3.8	5.4	1.5	5.4	0.7	8.1	1.9	5.4	2.2	4.5	3.8	3.6	3.1	5.6		3.8
Number Still-born	3	....	4	4	5	....	4	1	2	2	4	2	3	2	4	4	6	4	6	2	5	2	1	1	47	24		71

Population—White, 31,368; colored, 13,301; total, 44,669.

TABLE ILLUSTRATING DEATHS IN THE THIRD DISTRICT OF THE CITY OF NEW ORLEANS DURING THE YEAR 1881.

NAME OF DISEASES.	January.		February.		March.		April.		May.		June.		July.		August.		September.		October.		November.		December.		Total.		Total.
	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W&C
Malarial Fevers	....	....	....	....	....	....	....	....	....	....	2	....	3	1	1	....	....	....	2	....	....	1	....	....	8	1	9
Scarlet Fever	6	....	6	....	9	....	9	1	10	3	7	1	4	....	2	....	....	....	....	....	....	1	....	....	53	66	59
Typhoid Fever	1	1	....	1	1	....	1	....	1	1	....	1	....	1	2	....	1	....	1	....	1	....	3	....	12	5	17
Measles	....	....	....	....	....	....	3	....	1	....	1	....	....	....	....	....	....	....	....	....	....	....	....	....	5	....	5
Small-pox	....	....	....	....	....	....	1	....	1	....	....	....	....	....	....	....	....	....	....	....	....	....	1	....	3	....	3
Diphtheria	3	1	2	2	2	....	1	....	1	....	2	....	....	....	3	1	....	....	1	....	....	....	....	....	15	3	18
Diarrhœal Diseases	4	2	3	1	5	2	4	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	16	6	22
Congestion of Brain	1	2	2	....	....	....	1	1	1	....	3	....	4	1	2	1	3	....	1	....	....	....	....	....	18	5	23
Sunstroke	....	....	....	....	....	....	....	....	....	....	2	....	....	....	....	....	....	....	....	....	....	....	....	....	2	....	2
Convulsions	3	2	2	1	....	1	1	....	....	....	....	....	....	....	....	....	2	....	1	....	....	....	....	....	9	4	13
Phthisis Pulmonalis	10	6	10	2	7	4	8	5	5	4	7	7	5	5	11	6	8	7	8	4	7	3	2	1	88	54	142
Pneumonia	10	7	2	2	6	3	1	4	....	....	....	3	1	....	....	....	1	2	3	2	3	1	5	2	32	26	58
Deaths from all other causes	45	22	38	24	52	19	39	26	71	29	75	40	69	32	41	25	32	23	45	10	38	37	37	16	581	314	895
Total number of deaths	83	43	65	33	82	29	69	38	91	37	99	52	87	40	62	33	72	32	62	16	49	43	48	19	859	415	1274
Death rate per 1000 inhabitants per annum. Whites	29.41		23.12		29.41		24.27		32.37		35.27		30.94		22.05		25.61		22.05		17.43		17.43		25.46		
Colored	43.52		33.40		29.35		38.46		38.40		51.79		40.47		33.40		33.46		16 19		43.22		19.23		35.17		
Total	33.18		23.60		29.28		28.16		33.67		39.76		32.54		25.03		29.41		20 53		24.21		17.63		27.94		
Malarial Fevers	....	....	....	....	....	....	....	....	....	....	0.71	....	1.06	1.01	....	....	..	....	0.71	....	..	1.01	....	....	2.84	1.01	2.37
Phthisis Pulmonalis	3.55	6.07	3.55	2.01	2.48	4.04	2.84	5.06	1.77	4.04	2.48	7.08	1 77	5.06	3.54	6.07	2.84	7.08	2 84	4.04	2.48	3.03	0.71	1 01	2 60	4 55	3 11
Number stillborn	2	4	2	....	3	2	3	1	2	2	2	1	....	2	1	2	2	1	5	5	6	3	8	4	36	27	63

Population—Whites, 33,732; colored, 11,526; total, 43,588.

TABLE ILLUSTRATING THE DEATHS IN THE FOURTH DISTRICT OF THE CITY OF NEW ORLEANS DURING THE YEAR 1881.

NAMES OF DISEASES.	January.		February.		March.		April.		May.		June.		July.		August.		September.		October.		November.		December.		Total.		Total.
	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W&C
Malarial Fevers	2	...	1	...	2	...	1	...	2	...	3	...	3	...	6	2	2	4	4	3	2	...	1	...	29	9	38
Typhoid Fever	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	2	...	4	...	4
Scarlet Fever	1	1	1	1	6	...	13	1	4	2	2	...	...	1	...	...	1	...	...	...	...	...	...	...	28	6	34
Measles	...	...	1	...	...	...	2	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	4	...	4
Small-pox	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Diphtheria	1	...	1	...	1	1	...	...	...	...	...	...	...	...	...	...	1	...	2	...	...	...	...	...	6	1	7
Diarrhœal Diseases	3	1	5	...	4	1	...	..	29	2	19	8	9	2	7	...	6	3	1	2	1	...	5	3	81	19	100
Congestion of the Brain	2	...	...	...	...	...	1	...	3	...	3	2	2	1	3	...	1	...	3	...	3	2	1	1	22	6	28
Sunstroke	...	...	...	...	...	...	...	...	...	...	4	...	1	...	...	...	...	...	...	...	1	...	...	...	6	...	6
Convulsions	2	...	1	2	2	...	1	...	2	2	5	1	3	1	1	2	...	1	...	1	...	...	1	...	18	10	28
Phthisis Pulmonalis	8	1	6	1	15	3	4	2	8	7	1	1	6	1	2	1	4	1	3	3	6	4	4	5	67	30	97
Deaths from all other causes	33	12	19	11	25	8	20	10	23	19	27	10	31	12	25	8	19	7	15	10	18	12	25	8	280	127	407
Total number of Deaths	53	15	35	15	55	13	44	13	72	32	64	22	55	18	44	13	34	16	29	19	31	18	39	17	478	178	656
Death rate per 1000 Inhabitants per annum. White	20.76		13.71		21 55		17.04		28.21		25.07		21.55		17.24		13.32		11.36		12.14		15.28		15.60		17.40
Colored	26.04		26.04		22.57		22.57		55.57		38.20		31.25		22.57		27.78		32.99		31.25		29 52		25 75		.....
Total	21.74		15.98		21.74		18.22		33.25		27 49		23.34		18.22		15.98		15.34		15.66		17.90		17.40		.....
Malarial Fevers	0.63		0 31		0.63		0.31		0 63		0.95		0.95		2.55		1.65		2 23		0.63		0.31		1 01		1.01
Phthisis Pulmonalis	2.87		2.23		5.76		1.65		4.79		0.63		2.23		0.95		1 34		1.65		3.19		2.87		2 58		2.58
Number Still-born	7	2	4	1	6	2	2	...	3	1	...	...	5	...	1	1	5	3	1	...	3	2	3	2	40	14	54

TABLE ILLUSTRATING DEATHS IN THE SEVENTH DISTRICT OF THE CITY OF NEW ORLEANS DURING THE YEAR 1881.

NAMES OF DISEASES.	January.		February.		March.		April.		May.		June.		July.		August.		September.		October.		November.		December.		Total.		Total.
	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C	W.	C.	W.	C.	W.	C.	W&C
Malarial Fevers								1						1	2		3	5						3	5	7	12
Typhoid Fever									1										1						1		1
Scarlet Fever							1																		1		1
Measles																											
Small Pox																											
Diphtheria									2		2		1				1	1	2						8	1	9
Diarrhœal Diseases																											
Congestion of the Brain																											
unstroke			1										2	1		1		1				1	1		4	5	9
onvulsions																2		3						2		12	12
hthisis Pulmonalis		1																									
eaths from all other causes	1	4		3	1	3	2	3		4	3	5	5	3	5	6		1	3	1	4	4	1	3	25	40	65
Total Number of Deaths	1	5	1	3	1	4	3	5	3	5	5	7	8	5	7	9	4	11	6	1	4	5	5	5	48	65	113
Death rate per 1000 Inhabitants per annum. White		3.85		3.85		3.85		11.57		11.57		19.28		30.32		26.99		15.42		23.13		15.42		19.28		15.42	
Colored		19.20		11.36		7.69		19.20		19.20		26.89		19.30		34.56		42 24		3.84		19.20		19.20		20 80	18.11
Total White and Colored		1.54		7.69		9 62		15.39		15.39		23.08		25.01		30.78		28.87		13.47		17 31		19.27			
Malarial Fevers								1.94								3 84		15.39								1.66	2.24	1.94
Phthisis Pulmonalis		1.94				1.94		1.94		1.94		1.94		1.94		3.88		5.77						3.88			1.94	1.94
Number Still-born																											

Population—Whites, 3,112; Colored, 3,125. Total, 6,237.

TABLE ILLUSTRATING DEATHS IN THE FIFTH DISTRICT OF THE CITY OF NEW ORLEANS DURING THE YEAR 1881.

NAMES OF DISEASES.	January.		February.		March.		April.		May.		June.		July.		August.		September.		October.		November.		December.		Total.		Total.
	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W&C
Malarial Fevers						1							2	2	1	2		2		1			1		4	8	12
Typhoid Fever																					1				1		1
Scarlet Fever	1				1																				2		2
Measles																											
Small-pox																									3	1	4
Diphtheria			3							1															6	6	12
Diarrhœal Diseases									2		2	2		1		1		2			2						
Congestion of Brain																										1	1
Sunstroke												1													7	4	11
Convulsions			1			2					1				1		1				2	2	1		7	6	13
Phthisis Pulmonalis				1			1		1	2				1		1	2	1			2		1		62	35	97
Deaths from other diseases	6	2	3	1	5	5	4	2	9	4	4	3	4	4	5	2	3	5	9	4	4	1	6	2			
Total Number of Deaths	7	2	7	2	6	8	5	2	12	7	7	6	6	8	7	6	6	10	9	5	11	3	9	2	92	61	153
Death rate per 1000 inhabitants per annum. Whites	16.72		16.72		14.33		11.94		28.67		16.72		14.33		16.72		14.33		21.50		26.28		21.50		18.31		17.27
Colored	6.25		6.25		25.03		6.25		21.90		18.77		25.03		18.77		31.29		15.64		9.38		6.25		15.90		
Total	12.19		12.19		18.96		9.48		25.74		17.61		18.96		17.61		21.67		18.96		18.96		14.90				
Malarial Fevers					1.35								5.40		4.06		2.70		1.35				1.35		1.35		1.35
Phthisis Pulmonalis			1.35				1.35		4.06				1.35		1.35		4.06				2.70		1.35		1.46		1.46
Stillborn Children	1																3	2	1						6	2	8

Population—White, 5022; Colored, 3845. Total, 8857.

TABLE ILLUSTRATING DEATHS IN THE SIXTH DISTRICT OF THE CITY OF NEW ORLEANS DURING THE YEAR 1881.

NAMES OF DISEASES.	January.		February.		March.		April.		May.		June.		July.		August		September.		October.		November.		December.		Total.		Total.
	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W&C
Malarial Fevers	....	....	....	1	....	..	.	....	....	...	1	1	1	1	...	....	3	...	2	2	....	....	....	....	7	5	12
Typhoid Fever	....	....	..	....	....	....	....	....	....	....	....	....	....	....	....	....	....	..	1	....	..	....	....	....	1	....	1
Scarlet Fever	....	....	2	....	2	...	1	1	3	...	1	....	....	....	....	....	....	..	....	....	....	....	....	....	8	1	10
Measles	....	....	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	..	...	1	..	1
Small-pox	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.....
Diphtheria	2	....	2	....	....	....	....	....	3	....	1	....	1	1	1	....	....	..	1	....	....	....	1	....	12	1	13
Diarrhœal Diseases	....	1	1	1	....	....	2	....	4	2	9	7	3	1	2	2	2	2	....	1	1	1	1	1	25	19	44
Congestion of the Brain	....	....	1	....	2	....	....	....	....	2	1	2	....	....	1	....	1	....	....	1	....	....	....	....	6	5	11
Sunstroke	....	....	....	....	....	....	..	....	....	....	2	..	....	....	....	....	....	....	....	....	....	....	....	....	2	..	2
Convulsions	....	....	1	....	....	....	1	2	3	....	2	1	2	3	1	1	....	....	....	....	2	1	....	....	12	8	20
Phthisis Pulmonalis	3	2	....	3	1	4	3	1	1	1	1	1	1	...	3	2	....	2	1	2	....	1	2	3	16	22	38
Deaths from all other causes	10	12	8	8	7	14	13	7	20	4	23	7	9	4	7	3	5	6	10	5	3	8	8	3	122	82	204
Total number of deaths	15	15	16	13	12	18	20	11	34	9	41	19	17	10	15	8	11	10	15	11	6	11	12	7	313	143	356
Death rate per 1000 inhabitants per annum — White	15.06		16.06		12.04		20.08		34.14		41.16		17.06		15.06		11.04		15.06		6.02		12.04		18.64		
Death rate per 1000 inhabitants per annum — Colored	44.13		38.08		52.96		32.36		26.48		55.91		29.42		23.54		29.42		32.36		32.16		20.59		35.06		.....
Death rate per 1000 inhabitants per annum — Total white and colored	22.45		21.71		22.45		23.20		32.12		44.91		20.21		17.22		15.72		19.46		12.79		14.22		22.21		
Death rate per 1000 inhabitants per annum — Malarial Fevers	.....		0.74		.....		.....		.....		1.49		1.49		.. ..		2.24		2.99		.. ..		.....		0 59	1.22	0.74
Death rate per 1000 inhabitants per annum — Phthisis Pulmonalis	2.99		2.24		2.99		2.99		1.49		1.49		0.74		2.99		1.49		2.24		0.74		2.99		1.33	5.39	2.37
Number Still-born	1	...	4	...	...	2	2	1	...	3	...	...	...	...	1	...	...	...	...	2	1	2	...		12	7	19

Population—White, 11,951; colored, 4078; total, 16,029.

MORTALITY OF 1881.

MORTUARY STATISTICS OF NEW ORLEANS.

MORTALITY OF 1881.

Total deaths, whites, 4127; blacks, 2279: total, 6406.

If the mortality of the year just closed (1881) be compared with that of the preceding four years we have the following figures, exclusive of still-born:

1880—Total deaths, whites, 3637; blacks, 1986; total, 5623.

1879—Total deaths, whites, 3267; blacks, 1855; total, 5122.

1878—Total deaths, whites, 8062; blacks, 2256; total, 10,318.

1877—Total deaths, whites, 3976; blacks, 2732; total, 6708.

It will be observed that the mortality of 1881 has exceeded that of 1880 by 783, that of 1879 by 1284, whilst it is 302 less than that of 1877. These years furnish the only data during the series following the recent civil war for the determination of the relative mortality of the white and black races, and in the mortuary records of the Board of Health only three years can be found before the recent civil war in which the mortality of the two races is specified, namely, 1849, 1850 and 1853, and is as follows:

1849—Total deaths, whites, 7754; blacks, 1818; total, 9572.

1850—Total deaths, whites, 6122; blacks, 1409; total, 7531.

1853—Total deaths, whites, 14,292; blacks, 1341; total, 15,633.

Total deaths, three years 1849-53: whites, 28,168; blacks, 4568; total 32,736. Cholera prevailed in 1849-50, and yellow fever in 1853.

The total deaths during the first series of five years following the American civil war were: whites, 23,069; blacks, 11,108; total, 34,177. Yellow fever prevailed in 1878, and Asiatic cholera was absent throughout the entire period. It will be observed that the mortality of the three years, 1849, 1850 and 1853, reached 32,736, or very nearly that of the five last years, 1881, 1880, 1879, 1878, 1877.

The mortality of 1881 has not been materially influenced by exotic and zymotic diseases. Thus the deaths from this class of diseases were as follows: small-pox, 5; measles, 26; scarlatina, 197; typhoid fever, 66; diphtheria, 92; whooping cough, 1. Total deaths from zymotic and epidemic diseases, 387. [See Tables F. and G].

The deaths from this class of diseases (zymotic and epidemic) were as follows, in the years specified: 1844, 231; 1845, 199; 1847, 2797; 1848, 3375; 1849, 4479; 1850, 1985; 1851, 870; 1852, 1785; 1853, 8991; 1855, 3572; 1856, 380; 1857, 662; 1858, 5397; 1859, 800; 1860, 720; 1861, 445; 1863, 658; 1864, 1505; 1865, 1091; 1866, 2064; 1867, 3962; 1868, 245; 1869, 586; 1870, 1306; 1871, 169; 1872, 282; 1873, 1120; 1874, 823; 1875, 738; 1876, 738; 1877, 1254; 1878, 4327; 1879, 120; 1880, 360; 1881, 387.

We have included under the head of the zymotic diseases, the following: the small-pox, measles, scarlet fever, enteric or typhoid fever, yellow fever, malignant or Asiatic-cholera, diphtheria, and whooping-cough. It will thus be seen that the so-called contagious, infectious and epidemic diseases have been at various times the prime and sole causes of the high death-rate of New Orleans in the years in which they have prevailed.

If this class of diseases be excluded we will arrive at the true rate of mortality in New Orleans, as determined by indigenous causes, namely, soil, climate, medical topography and hygienic condition.

Thus the death-rate in New Orleans from all diseases during the years specified were as follows: 1844, 51.66; 1845, 29.20; 1847, 67.18; 1848, 76.92; 1849, 78.13; 1850, 58.96; 1851, 52.48; 1852, 56.82; 1853, 99.18; 1855, 47.21; 1856, 33.05; 1857, 31.88; 1858, 68.73; 1859, 39.00; 1860, 43.52; 1861, 30.10; 1863, 40.67; 1864, 49.34; 1865, 38.32; 1866, 41.23; 1867, 52.88; 1868, 26.25; 1869, 29.79; 1870, 36.26; 1871, 28.92; 1872, 31.17; 1873, 37.73; 1874, 33.75; 1875, 30.00; 1876, 30.32; 1877, 32.11; 1878, 48.81; 1879, 23,94; 1880, 25.98; 1881, 29,64, in 1000 population.

In the series of years just recounted, we find that 1845, 1868, 1871, 1879 and 1880, exceed the year 1881 in health as shown by the death-rate.

If the zymotic and epidemic diseases be excluded, we have the following mortality per 1000 inhabitants for the years specified: 1844, 19.00; 1845, 26.98; 1847, 41.45; 1848, 47.70; 1849, 41.57; 1850, 43.67; 1851, 46.06; 1852, 44.72; 1853, 40.85; 1855, 25.75; 1856, 30.70; 1857, 27 84; 1858, 36.11; 1859, 34.20; 1860, 39.26; 1861, 27.48; 1863, 36.86; 1864, 40.67; 1865, 32.08; 1866, 29,69; 1867, 31.03; 1868, 25.07; 1869, 25.67; 1870, 29.42; 1871, 28,05; 1872, 28.05; 1873, 29.74; 1874, 32.15; 1875, 26.97; 1876, 26.39; 1877, 26.63; 1878, 28.34; 1879, 23.38; 1880, 24.32; 1881, 27.85.

It will be observed that the years 1845, 1855, 1856,1860, 1868, 1869, 1875, 1876, 1877, 1879 and 1880, furnished a lower death rate than 1881, from epidemic or indigenous causes.

Upon the whole the preceding statistics reveal a progressive advance in the health of New Orleans, and this must be attributted to several causes—as the more stable condition of the population; the diminution of immigrants; increased facilities for drainage; improved sanitary conditions, and more rigid execution of quarantine.

We are also reminded by the preceding facts that it is unwise to draw dogmatic conclusions from the records of a few years as to the absolute value and effects of any one measure; as, for instance, the flushing of the gutters with water. It is evident that, with greatly increased facilities for this work in 1881, New Orleans, nevertheless, had a higher mortality than in 1880 and 1879.

The mortality by months in 1881 was as follows; January, 543; Febuary, 466; March, 551; April, 529, May, 683; June, 733; July, 571; August, 472; September, 427; October. 442; November, 508; December, 481. Total, 6406.

The average monthly mortality of New Orleans during the past twenty-four years has been as follows: January, 521; February, 459; March, 541; April, 510; May, 607; June, 623; July, 653; August, 940; September, 880; October, 711; November, 572; December. 513. Annual average during twenty-four years, 7430.

These statistics show that during 1881, contrary to the usual course of mortality in a series of years, including epidemic and non-epidemic, the lowest mortality occurred in August, September, and October. The highest mortality occurred in January, March, April, May and June.

The increase of mortality during the winter and spring was due to the severity of the weather, the heavy rainfall, and the overflow of the rear portion of the city. The great mortality of June (733) was referable largely to the intense and prolonged heat. In May the maximum temperature ranged from 77° to 90°, and the deaths from congestion of the brain numbered fifteen, out of a total of 683 deaths from all causes. In June the maximum temperature ranged from 82° to 97°, with a mean maximum temperature of 90.8; the deaths from sunstroke numbered twenty-seven, and from congestion of the brain forty, out of a total of 733 from all causes. In July the maximum temperature ranged from 82° to 95°, with a mean maximum temperature of 90.1; the deaths from sunstroke numbered five, and those from congestion of the brain twenty-one, out of a total of 571 deaths from all causes. In August the maximum temperature ranged from 81° to 94°, with a mean of 88.6; one case of sunstroke was reported in August, and only seven deaths from congestion of the brain.

TOTAL DEATHS FROM SUNSTROKE, CONGESTION OF THE BRAIN AND FROM ALL CAUSES. WITH MAXIMUM TEMPERATURE RECORDED DAILY DURING THE "HEATED TERM" (MAY, JUNE, JULY, AND AUGUST), 1881, CONSOLIDATED FROM THE ORIGINAL RECORDS OF THE BOARD OF HEALTH.

	MAY.				JUNE.				JULY.				AUGUST.			
Date.	Sunstroke.	Congestion of the Brain.	Total Deaths.	Maximum Temperature.	Sunstroke.	Congestion of the Brain.	Total Deaths.	Maximum Temperature.	Sunstroke.	Congestion of the Brain	Total Deaths.	Maximum Temperature.	Sunstroke.	Congestion of the Brain.	Total Deaths.	Maximum Temperature.
1	.....	1	13	84	.....	1	19	82	.....	1	31	92	.....	.....	7	88
2	.....	.....	10	81	.....	.....	35	84	.....	.....	12	87	.....	.....	14	87
3	.....	1	17	82	.....	.....	15	90	.....	1	14	86	.....	1	13	88
4	.....	.....	22	83	.....	1	35	87	.....	1	20	87	.....	.....	20	85
5	.....	1	25	80	.....	1	16	87	.....	.....	20	90	.....	.....	10	85
6	.....	2	21	80	.....	.....	17	87	.....	1	21	92	.....	.....	15	81
7	.....	.....	29	80	.....	.....	20	88	.....	.....	13	92	.....	.....	11	85
8	.....	1	17	77	.....	.....	20	89	.....	2	18	92	.....	.....	12	87
9	.....	1	27	82	.....	1	31	90	1	1	36	95	.....	.....	15	88
10	.....	.....	30	82	.....	1	31	91	2	.....	11	92	.....	.....	17	89
11	.....	1	16	82	2	1	35	90	1	2	21	92	.....	.....	19	91
12	.....	.....	18	83	.....	.....	7	91	.....	1	15	90	.....	1	7	87
13	.....	.....	21	85	.....	3	35	92	.....	.....	21	85	.....	.....	20	90
14	.....	2	31	89	1	3	28	95	.....	1	15	86	.....	.....	14	91
15	.....	.....	13	90	1	1	29	94	.....	.....	20	83	.....	.....	24	94
16	.....	.....	26	88	3	2	34	96	.....	.....	22	88	.....	1	15	88
17	.....	.....	25	86	2	3	31	92	.....	.....	5	90	.....	.....	18	88
18	.....	.....	16	83	.....	3	25	91	.....	.....	13	92	.....	.....	13	88
19	.....	.....	24	85	.....	2	9	91	.....	.....	19	88	1	.....	22	88
20	.....	1	24	82	1	1	24	91	.....	.....	13	90	.....	.....	17	88
21	.....	2	29	81	.....	2	27	94	.....	.....	18	91	.....	.....	11	91
22	.....	.....	15	85	4	2	34	97	.....	1	12	93	.....	.....	19	92
23	.....	.....	30	86	8	3	34	94	.....	2	29	93	.....	1	19	93
24	.....	.....	36	85	3	3	27	93	.....	2	17	92	.....	1	15	91
25	.....	1	23	82	1	2	31	93	.....	.....	21	93	.....	1	15	88
26	.....	.....	16	83	1	1	16	93	.....	1	18	90	.....	.....	9	88
27	.....	.....	17	85	.....	2	18	91	1	1	24	89	.....	.....	23	89
28	.....	1	29	86	.....	.....	16	92	.....	1	21	96	.....	1	17	91
29	.....	.....	18	84	.....	.....	21	90	.....	.....	15	90	.....	.....	9	91
30	.....	.....	17	84	.....	1	13	91	.....	2	11	90	.....	.....	16	89
31	.....	.....	28	86	.....	.....	.....	.....	.....	.....	25	89	.....	.....	16	87
	.....	15	683	83.6	27	40	733	90.8	5	21	571	90.1	1	7	472	88.6

It is thus shown that the mortality of June was due to the prolonged and excessive heat. The effect of heat was especially manifest in the increased mortality of infants and children.

It is worthy of note that the prolonged and intense heat of the summer of 1881 *was unattended by the development of yellow fever.*

DEATHS REPORTED BY THE CORONER AND THOSE WHICH OCCURRED IN CHARITABLE AND PUBLIC INSTITUTIONS, INCLUDING THE CHARITY HOSPITAL, DURING THE YEAR 1881.

The detailed statement of the causes of deaths reported by the Coroner and by the various public institutions of New Orleans, including the Charity Hospital, will be found in Table H, of the Annual Report for 1881. From this table the following general results are obtained:

The grand total of deaths reported by the Coroner during the year 1881 were 1018; in various public and charitable institutions, 292; in the Charity Hospital, 825, Total deaths reported by the Coroner and in charitable institutions, 2135. The races were represented as follows; By Coroner—By disease and violence, whites 472, colored 546; still-born, whites 89, colored 101; public and charitable institutions, whites 240, colored 52; Charity Hospital, whites 517, colored 308. Total whites 1318, colered 1007; total blacks and whites, 2325. This last figure includes the still-born, which numbered 190.

It is worthy of note that whilst the whites exceed the blacks in the proportion of about four to one, at the same time the deaths among the white population, certified by the Coroner, actually exceeded those among the whites in the proportion of 472 to 546. The still-born reported by the Coroner among the colored race also exceeded, in the proportion of 101 to 89, those of the white race.

THE MORTALITY AMONG THE COLORED RACE IN NEW ORLEANS AS CERTIFIED BY THE CORONER AND AS SHOWN BY THE STATISTICS OF THE CHARITY HOSPITAL, WAS AT LEAST FOUR-FOLD GREATER THAN AMONG THE WHITES.

As the deaths upon the Coroner's certificate and those recorded in the Charity Hospital represent the amount of disease and deaths occurring among the destitute, homeless and friendless poor of New Orleans, these statistics would seem to lead to the conclusion that destitution and poverty were four-fold greater among the colored population than among the whites.

Such a vast discrepancy in the ratio of deaths among those incapable of furnishing their own medicines and medical attendants must rest upon certain determinable causes.

The excess of still-born recorded by the Coroner among the colored race, in the proportion of 101 colored to 89 whites, still further indicates the greater degree of poverty and destitution among the children of Africa.

When we examine the total mortality for 1881, including the deaths from all causes, embracing the preceding statistics as occurring in charitable and public institutions, and as certified by the Coroner, we have the following: Total deaths, whites, 4127; total colored, 2279; total, whites and blacks, 1881, 6,406. The preceding number, 6,406, includes the deaths from all causes, and in all institutions, public and charitable, and those certified by the Coroner, within the limits of the City of New Orleans, exclusive of the still-born, which numbered whites, 217; colored, 136; total, 353 still-born. (See Table G, mortuary statistics of New Orleans, illustrating the mortality, by months, in the white and black races, during five years, 1877, 1878, 1879, 1880 and 1881.)

The causes of the excess of mortality among the colored population over that of the white may be formulated thus:

1. Poverty, dependent upon imprudence, idleness and vice.
2. Poverty, dependent upon ignorance of mercantile and mechanical and professional pursuits.
3. Crowding and neglect of sanitary rules and imperfect food, enforced and fostered by destitution.
4. Want of skillful medical attention and proper medicines and diet for the sick colored poor. Without doubt the humane members of the medical profession, relieve a vast amount of disease and suffering amongst the sick poor of both races; and the doors

of the Charity Hospital are wide open for the reception of the diseased, sick and suffering destitute poor of both races, but the preceding statistics are sufficient to arouse the philanthropist to still greater and more noble exertions.

In this great city at the mouth of this great river, all nations mingle, and it is not surprising that the miseries of the world should here find striking illustrations, and furnish a wide field for the labors of the philanthropist, and more especially for the medical and sanitary philanthropist.

If the still-born be excluded, the remarkable result is obtained, that out of the total deaths occurring in New Orleans during 1881 (6,406), almost precisely one-third (or 2,135) occurred in charitable or public institutions (asylums and prisons) or were diagnosed by the coroner.

One-third of those dying in New Orleans die in poverty, and are buried at the public expense.

One-sixth of those who die in New Orleans perish in silence and misery, with no kind companion, no efficient medicine, and no generous physician.

In such a condition, the President of the Board of Health finds the greatest difficulty of either discovering at the earliest practicable moment, or arresting by efficient sanitary measures, such contagious and infectious diseases as small-pox and typhus fever.

5. The various organizations of this city, as well as the Board of Health, cannot, by windy resolutions, exorcise the demon of poverty and stay the march of grim death, as he reaps his richest harvest among the destitute, the dissolute and the degraded; but it may be possible by stern facts to realize our true condition, and to strike those chords in the hearts of the good and philanthropic, which, in the progress of time, may eventuate in the amelioration of much suffering and distress.

That the heavy mortality among the colored race is to a large extent due to the peculiar conditions and vices of a large city was shown in the report of 1880.

First District.—Total deaths, 1393; whites 884, colored 509; death-rate per 1000 inhabitants, whites 20.40, colored 36.10; death-rate, whites and colored, 24.24.

Second District.—Total deaths, 1115; whites 699, colored 416; death-rate per 1000 inhabitants, whites 22.28, colored 31.27; total death-rate, whites and colored, 24.96.

Third District.—Total deaths, 1161; whites 774, colored 387; death-rate per 1000 inhabitants, whites 22.94 colored 32.62; total death-rate, whites and colored, 25.47.

Fourth District.—Total mortality, 720; whites 506, colored 214; death-rate per 1000 inhabitants, whites 16.52, colored 30.96; total death-rate, whites and colored, 19.81.

Fifth District.—Total mortality, 142; whites 88, colored 54; death-rate per 1000 in habitants, whites 18.12, colored 13.30; total death-rate, whites and colored 16.03.

The Fifth District gave the lowest mortality of any district within the bounds of the city of New Orleans. This district, which occupies the opposite side of the river, is, perhaps, the most sparsely settled.

Sixth District—Total deaths, 329; whites, 196, colored 123; death-rate per 1000 inhabitants, whites, 16.40, colored 30.16; total death-rate per 1000 inhabitants 20.52.

Seventh District—Total deaths, 128; whites 62, colored 66; death-rate per 1000 inhabitants, whites 19.92, colored 21.12; total death-rate, whites and colored, 20.52.

That the mortality among the colored race in 1880 corresponded, to a remarkable ex tent, with the density of population, is shown by a comparison of the mortality of the several districts just given with the population, as established by the United States census of 1880.

Thus, the population of the districts of New Orleans in 1880, was as follows:

First District—Whites 43,319; colored 14,126; total 57,445.
Second District—Whites 31,368; colored 13,301; total 44,469.
Third District—Whites 33,732; colored 11856; total 45,588.
Fourth District—Whites 4,022; colored 3,034; total 8, 856.
Fifth District—Whites 5,0022; colored 3,834; total 8 ,856.
Sixth District—Whites 11, 951; colored 4,078; total 16, 029.
Seventh District—Whites 3,112; colored 3,125; total 6,237.

Without doubt, much of the poverty and unrelieved and unattended suffering and disease in New Orleans, are dependent upon an excess of population, and more especially of the colored population, above the actual necessity of manual labor, marine and mercantile pursuits and manufacturing industries.

Notwithstanding these causes, much good may be accomplished and many valuable lives saved, by the institution of free dispensaries, and the employment of one or more physicians in each ward at a just compensation, whose duty it shall be to attend the sick poor at all times and under all circumstances by night, as well as by day.

SMALL-POX.

During the year 1881, only five deaths have occurred from this disease. It is worthy of note that this great city, holding communication with all parts of the civilized world, and with numerous foreign and domestic cities in which small-pox is prevailing, has up to the present time escaped an epidemic of this disease. The following figures represent the number of deaths from small-pox in New Orleans, during the years specified: 1847,

27 ; 1848, 105 ; 1849, 133 ; 1850, 37 ; 1851, 38 ; 1852, 0 ; 1853, 17 ; 1855, 0 ; 1856, 2 ; 1857, 103 ; 1858, 108 ; 1859, 43 ; 1860, 22 ; 1861, 1 ; 1863, 2 ; 1864, 605 ; 1865, 613 ; 1866, 188 1867, 47 ; 1868, 14 ; 1869, 141 ; 1870, 528 ; 1871, 2 ; 1872, 29 ; 1873, 509 ; 1874, 587 ; 1875 342 ; 1876, 232 ; 1877, 1099 ; 1878, 151 ; 1879, 0 ; 1880, 1 ; 1881, 5. Total deaths from small pox during the past thirty-six years (1844—1881), 5731.

TABLE SHOWING DEATHS IN THE FIRST DISTRICT, CITY OF NEW ORLEANS, DURING THE YEAR 1882.

DISEASES.		January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
Yellow Fever							1	1						2
Malarial Fevers		3			3	11	20	12	6	11	10	21	18	114
Typhoid Fever		2	2	2	3	2	4		3	1	3	1	3	24
Scarlet fever		2	4	2	1	3	1	7	3	1	2	1	1	28
Measles							1							1
Small-pox				7	6	6	8	2	1	3	5	7	15	60
Diphtheria		1		2	1				2	1	2		1	10
Diarrhœal Diseases		6	9	3	35	24	17	14	6		11	24	29	178
Congestion of Brain		2	3	2	7	3	1	1	1	2		1	2	25
Sunstroke							3	1		1				5
Convulsions				2	5	6		3		6		3	6	31
Phthisis Pulmonalis		21	24	13	32	25	32	28	19	17	16	27	34	288
Deaths from all other causes		154	117	141	99	106	95	88	183	117	144	112	127	1436
Total Number Deaths		191	159	174	191	186	183	157	174	160	193	197	236	2201
Number Deaths.	Whites	118	108	106	111	113	107	105	133	96	120	132	162	1381
	Colored	73	51	68	80	73	76	52	71	64	73	65	74	820
Death rate per 1000 Inhabitants per annum.	Yellow Fever						0.20	0.20						0.03
	Malarial fevers	0.62			0.41	2.30	4.18	2.50	1.25	2.30	2.10	4.38	3.75	1.94
	Phthisis pulmonalis	4.38	5.02	2.71	6.68	5.22	6.68	5.84	3.97	3.55	3.55	5.64	7.09	5.01
	Whites	32.68	29.91	29.36	30.74	31.32	29.64	29.09	28.54	26.59	33.24	36.56	44.87	31.85
	Colored	62.01	43.32	57.76	67.95	52.01	64.56	44.17	60.31	54.36	62.01	55.21	62.86	58.05
Total		39.89	33.21	36.34	39.89	38.85	38.22	32.79	36.34	33.42	4..51	41.15	49.29	38.31

TOPOGRAPHY.

The First, Second, and Third Wards are comprised in the First Municipal District. The First and Second Wards terminate at and a little beyond the Claiborne Canal ; the Third Ward runs out to the lake. Felicity and Canal streets form the upper and lower limits in the city proper.

The lands along the river for a half mile back, are much higher than the level of the lake ; those in the rear portions are lower. The section beyond Broad street, between the New Basin and Canal street, is not much better than swamp land. It is covered with a series of ponds after heavy rainstorms, which last for a long time afterwards.

DRAINAGE.

Although this district now constitutes the centre of the business and enterprise in this city, the system of drainage is as primitive as of old. Surface drainage still prevails, and very imperfect it is at its best. After heavy rain storms, it is a common sight to see the rear of the district under water, which even extends as far front as Magazine street. The drainage machines have to labor days before this surplus of water is carried off.

There is a fall in the surface slope of some fourteen or fifteen feet to the low lands, three miles distant from the river. The canals leading into the lake are on a higher level than the lands adjoining, from which the drainage machines are necessary to raise the rain water into these conduits.

SANITARY CONDITION.

The front of the district, as far back as Rampart street, is, generally speaking, in a fair sanitary condition the whole year. This is owing to the streets being paved, with some exceptions, and the gutters in consequence are capable of carrying off drainage waters. This is facilitated by the Camp street culvert and the Melpomene street canal.

The rear of the district is given over to mud. The street railways, on Clio and Erato streets, have improved the streets by planking, which is vastly superior to *mud*. The extreme rear of the district being so low and so often overflowed either by rain or lake waters, besides being traversed by the sewerage canals, is the least desirable for habitation. This is so of Canal street. This portion of the city, however, will never build up until an entirely new system of drainage is perfected and carried into operation. The city, in fact, will never build out to the lake, and become then the Southern Metropolis, so often prophesied, until this is done. The drainage into the lake is wrong in every way. The river and not the lake should receive the sewerage of the city.

HEALTH.

The past year was remarkably healthy for the entire city. The summer was cool, and the fall a late and pleasant ending of the warm season.

The mortality was light in this district, with its aggregate population of fully sixty thousand persons. The deaths from all causes gave a ratio per 1000 per annum of 31.85 whites, 58.05 colored, and 38.31 total. This embraces the mortality in the Charity Hospital, an institution that receives its patients from all parts of the State and country, which had a death list of 510 whites, 294 colored, and 804 total. If this were deducted from the death rate given above, the ratio would be as follows : Whites, 15.16 ; colored, 37.23 ; total, 19.51—a reduction of almost one half in the percentage of deaths.

The deaths were light for every month in the year, except April, May, June, November and December. The maximum was reached in December, and the minimum in August.

The mortality from malarial fevers was greatest in June and November. Typhoid fever, never common in this city, was the cause of twenty-four deaths, most of which occurred in the Charity Hospital. The absence of this fever to a great extent in this city is in favor of surface drainage.

The prevalence of contagious diseases was confined principally to scarlet fever and small-pox, but particularly the latter. Small-pox was mostly in the lower districts last winter and spring, but bids fair to extend on up through the upper ones this year. From present appearances, however, I would consider that its spread will be slow. This will be the case probably if the remainder of the winter should be mild and the spring an early one. The disease seems to be at a stand-still in this district at present, there being but four cases on hand. About seventy-five per cent of the cases occur among the colored race. The death rate in this disease is very high, fully fifty per cent of the cases resulting fatally.

There is a total disregard of the merits of vaccination on the part of both whites and blacks in the lower classes. Gratuitous vaccination is repeatedly proffered to persons in the infected localities, but very seldom accepted. The cause of this indifference appears to be as much due to prejudice as to carelessness. What costs nothing must not be good for much!

The two deaths from yellow fever, as shown in the mortality table, were of cases transferred from the Third District to the Charity Hospital. No case of this fever occurred in this district, setting aside a suspicious case reported in September, back of Prieur street, near Gasquet street.

TABLE ILLUSTRATING DEATHS IN THE SECOND DISTRICT OF THE CITY OF NEW ORLEANS DURING THE YEAR 1882

NAMES OF DISEASES.	January.		February.		March.		April.		May.		June.		July.		August		September.		October.		November.		December.		Total.		Total.
	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W&C
Malarial Fevers	4	5	1	1	....	...	2	1	5	2	5	6	4	1	3	1	2	2	7	1	2	...	2	4	37	24	61
Typhoid Fever	2	...	1	...	....	1	....	....	1	....	....	..	1	....	....	1	..	....	1	..	..	....	....	..	6	2	8
Scarlet Fever	1	..	3	...	....	...	....	....	2	....	1	....	1	....	....	....	....	....	....	....	2	..	....	....	10	....	10
Measles	....	..	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.....
Diphtheria	2	....	....	....	....	....	1	....	....	....	....	....	....	....	....	....	1	..	....	....	....	....	....	2	2	6	2	8
Diarrhœal Diseases	2	1	2	2	....	....	3	....	4	1	....	....	2	3	3	2	2	....	4	2	1	..	1	1	24	13	37
Congestion of Brain	....	....	....	....	2	1	1	1	....	2	1	....	1	....	1	....	1	....	1	....	1	2	3	...	12	6	18
Sunstroke	....	....	1	....	2	1	5	5	5	14	5	9	2	6	1	....	1	2	....	1	....	....	....	1	22	39	61
Convulsions	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.....
Phthisis Pulmonalis	3	7	8	5	5	10	4	4	12	7	8	7	8	8	9	9	5	5	8	6	10	8	8	4	88	80	168
Deaths from all other causes	38	32	32	27	28	26	29	32	35	35	44	17	32	20	31	19	30	24	30	24	40	28	33	19	401	302	703
Total number of Deaths	52	45	48	35	37	39	45	43	64	61	64	39	51	38	48	32	42	33	50	34	56	38	49	31	606	468	1074
Death rate per 1000 Inhabitants — White	19.89		18.36		14.15		17.21		24.48		24.48		19.51		18.36		16.06		19.12		21.42		18.74		19.31		.....
Death rate per 1000 Inhabitants — Colored	40.52		31.57		35.18		38 79		55.03		35.18		34.28		28.87		29.77		30.67		34.28		27.96		35.18		.....
Death rate per 1000 Inhabitants — Total white and colored	26.06		22.29		20.41		23.64		33.58		27.67		23 68		21.49		20.14		25.66		25.25		21.49		.....		24.04
Inhabitants per annum, Malarial Fever	1.53	4.51	0.3	0.9	....	....	0.7	0.9	1.90	1.80	1.90	5 41	1.53	0.9	1.10	0.9	0.7	1.80	2.35	0.9	0.7	....	1.80	3.60	1.14	1.80	1.36
Inhabitants per annum, Phthisis Pulmonalis	1.10	6.31	2.06	4.51	1.96	9.02	1.53	3.60	4.58	6.31	3.60	6.31	3.06	7.01	3.44	8.11	1.90	4.51	3.06	5.41	3.82	7.21	3.06	3.60	2.80	6.01	3.71
Number Still-born	3	3	4	....	6	....	1	3	2	3	5	4	5	4	12	4	4	1	5	2	3	2	1	3	53	29	82

Population—White, 31,368; colored, 13,301; total, 44,669.

TABLE GIVING MORTALITY FOR THE YEAR 1882, THIRD DISTRICT.

NAME OF DISEASES.	January.		February.		March.		April.		May.		June.		July.		August.		September.		October.		November.		December.		Total.		Total.
	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W&C
Malarial Fevers	....	....	....	1	..	2	....	1	....	....	1	....	....	..	....	....	3	2	1	2	..	1	....	11	5	20	25
Scarlet Fever	....	....	....	1	1	....	1	....	....	....	....	....	1	....	....	1	....	....	....	....	....	....	....	....	3	2	5
Typhoid Fever	....	1	....	1	....	....	2	....	3	1	2	....	2	....	1	..	1	1	1	1	1	..	4	....	17	5	22
Small-pox	....	3	2	1	6	15	13	16	8	28	12	22	5	3	2	7	....	5	1	5	..	3	2	3	51	111	162
Diphtheria	....	....	1	....	2	....	3	....	1	....	3	1	2	....	....	1	....	....	1	....	....	....	....	....	13	2	15
Diarrhœal Diseases	1	....	....	....	....	1	4	3	6	3	1	2	3	....	5	....	....	2	....	2	1	4	2	1	23	18	41
Congestion of Brain	1	....	1	....	3	1	....	....	....	....	....	....	2	....	1	....	....	....	2	....	1	....	1	....	12	1	13
Convulsions	1	....	1	....	2	....	6	2	2	1	2	..	1	....	....	....	2	1	1	1	2	....	2	....	22	5	27
Phthisis Pulmonalis	6	6	11	8	5	5	3	6	5	6	5	3	8	1	3	3	5	3	7	5	9	5	11	8	78	59	137
Pneumonia	5	3	....	2	1	3	2	4	1	4	2	1	2	..	1	1	2	....	1	2	3	2	4	6	24	26	50
Deaths from all other causes	43	23	41	21	33	41	43	39	43	34	41	35	42	29	40	16	43	18	42	22	32	21	41	22	484	321	805
Total number of deaths	57	36	57	35	53	68	77	71	69	77	69	64	68	33	53	29	56	32	57	40	49	34	67	51	732	570	1302
Death rate per 1000 inhabitants per annum. Whites	20.27		20.27		18.85		27.09		24.54		24.54		24.19		18.85		19.92		20.27		17.13		23.71		21.70		.....
Colored	36.43		35.42		67.98		71.86		78.01		64.77		33.38		29.33		32.38		40.48		34.40		51.61		48.07		.....
Total	24.47		24.21		29.21		38.98		38.86		34.00		24.83		21.58		23.16		25.52		21.84		31.06		.....		28.34
Malarial Fevers	....	....	....	1.01	....	2.02	....	1.01	....	....	0.35	....	....	....	....	....	1.06	2.02	0.35	2.02	....	1.01	....	11.13	0.15	1.68	0.55
Phthisis Pulmonalis	2.13	6.07	3.90	8.09	1.77	5.06	1.06	6.07	1.77	6.07	1.77	3.12	2.85	1.01	1.06	3.12	1.77	3.12	2.49	5.06	3.20	5.06	3.90	8.09	2.31	4.97	3.01
Number stillborn	3	....	6	1	7	2	5	1	6	....	9	3	6	4	4	4	9	3	4	5	4	....	6	....	63	23	.....

Population—Whites, 33,732; colored, 11,856; total, 45,588.

YELLOW FEVER IN THE THIRD DISTRICT NEW ORLEANS, 1882.

[Extract from the report of Dr. Eug. J. Mioton, Sanitary Inspector Third District.]

YELLOW FEVER.

Three cases of yellow fever have occurred in the city of New Orleans during the last year, and all three cases have taken place in the Third District, at a distance of one or two blocks from each other. The following is a brief history of the cases and of the several sanitary measures taken in connection therewith to abate the fever and prevent its spread.

The first case was that of Henry Forbes; took sick June 22, 1882, died June 27, 1882. The second, that of Johannes Stroh, took sick July 28, 1882, died August 1, 1882. The third and last case, that of Alexander Englund, took sick August 5, 1882, died August 8, 1882. I shall take up each case separately and in the order they have occurred.

FIRST CASE—HENRY FORBES.

Henry Forbes, English by birth, twenty years of age, residence in New Orleans about ten (10) days, was admitted in Ward 27 of the Charity Hospital on Sunday, twenty-fifth of June 1882, at 9 o'clock a. m. Forbes, it appears, sailed from Montevideo, in the Spanish brigantine Rita, for Havana, via Porto Rico. On board this ship was a passenger just recovering from "*chills and fever*" which he had contracted in *Rio de Janeiro*; the length of the voyage from Montevideo to Havana was fifty-four (54) days. Forbes remained five and a half days in Havana but did not pass a singe night ashore; from Havana he came to New Orleans in eight days, including the detentions at quarantine station, on the steamship Marco Aurelio, Capt. Morgan. The vessel landed in Algiers, but Forbes crossed over on this side of the city on Tuesday, June 20, and sought for lodging at No. 97 North Peter street, house kept by a Mrs. Viana, where he remained until Wednesday morning, when he went on board the steamer Commander, of Liverpool, and was set to work painting the ship. On Thursday, June 22, at 8 o'clock a. m., while working, he was seized by a violent chill, followed by high fever; he then returned to his boarding house, No. 97 North Peter street, and remained there without medical assistance until Sunday morning, June 25, when he was sent to the Charity Hospital. At the time of his admission to the Chirity Hospital, he was very weak and jaundiced.

Tuesday morning, August 1, the temperature in the axilla was 102° F.; pulse 99. Patient again vomited bilious matters flecked with brown specks and showed signs of jaundice, with red and injected eyes. The attending physician then thought the case was so much like yellow fever, that soon in the afternoon he reported the matter to the President of the Board of Health.

At two o'clock p. m., Doctor Joseph Jones, President of the Board of Health, was at the patient's bedside and found a temperature of 102° F. and a pulse of 116; patient was delirious kept his eyes and mouth tightly closed and exhibited much nervous agitation; the surface of the body was jaundiced; gums red and swollen; by means of catheter the bladder was emptied of four ounces of a high-colored turbid urine, which, on being tested, exhibited the presence of albumen and showed a specific gravity of 1012. The patient died at six o'clock the same evening.

A post-mortem examination was held on Wednesday morning, August 2, at nine o'clock, at which were present Drs. Joseph Jones, G. K. Pratt, and C. Faget, Sr., of the Board of Health; Dr. S. E. Chaillé of the National Board of Health, and Dr. V. C. Frogne, the attending physician. After due deliberation, and without hesitation, the case was pronounced to be one of yellow fever.

The President of the Board of Health at once sent to Dr. Atkinson, President Board of Health, Nashville, Tenn.; to Dr. R. M. Swearingen, State Health Officer of Texas, at Austin; to Dr. W. D. Kelly, President of the Galveston Board of Health; to Dr. Johnson, Secretary of the State Board of Health of Mississippi, at Jackson; to Dr. Fournier, Health Officer of Mobile; to Governor McEnery, at Baton Rouge, the following telegram:

A case of yellow fever reported at No 25 Enghien street, Third District, yesterday at two p. m. Died during the night. The board has taken all necessary measures of disinfection, fumigation and isolation. No other case known in the city. City healthy and in good sanitary condition. Death rate per 1000 whites, 25.61.

JOESPH JONES, M. D., President Board of Health

At the same time the following instructions were issued to Dr. E. J. Mioton, the Sanitary Inspector of the Third District.

1. Disinfect and fumigate the house and yard and surroundings of No. 25 Enghien street.
2. Destroy by fire the bed, bedding, bed-clothes and every apparel of Johannes Stroh, who died of yellow fever last night
3. Allow no gathering of people around No. 25 Enghien street.
4. Cause the immediate burial of the body of Johannes Stroh.
5. Place your officers in charge of No. 25 Enghien street, and of the surrounding blocks, and carry forward systematic inspection and disinfection, throughout this section of the city.
6. The Sanitary Inspector should attend to the execution of these measures in person and report all facts immediately to the Board of Health.

I send man and cart, one barrel of carbolic acid, one half barrel of sulphur and four barrels of copperas. I have ordered Sanitary Policemen Wiltz and Blanchard to report to you for duty.

JOSEPH JONES, M. D., President Board of Health.

All these instructions were rigidly enforced and carried out. The fumigation and disinfection of premises conducted in the manner described in Forbes' case.

THIRD CASE—ALEXANDER ENGLUND.

Alexander Englund, aged twenty-nine, born in Finland, carpenter by trade, arrived in this city from Cardiff, Wales, May 21, 1882, and had always resided at No. 85 North Peters street, in the block next to that where seaman Forbes was taken sick with yellow fever. The patient took sick at 8 o'clock on the eighth of August, and was given a hot foot-bath and a dose of castor oil by the people of the house; on the morning of the ninth he was taken to the Charity Hospital, where his temperature was found to be 104° F. and pulse 90; at 3 p. m., temperature 104° F. and pulse 80; at night temperature 103° F. and pulse 59.

Englund died on the fifteenth of August, in the evening, at about 4 o'clock.

It appears that Englund was working in repairing buildings in the same block of houses in which he lived; he took sick on the eighth, at night, was taken to the hospital on the ninth, in the morning, where his case was officially pronounced to be one of yellow fever of a mild type. For several days the patient was reported to be free from dangerous symptoms, and was believed to be doing well; but in the last day or two his symptoms increased in severity, black vomit appeared and the patient succumbed to the attacks of the disease.

In all three cases, all the necessary measures of sanitation, fumigation and disinfection were observed, not only in the premises where cases had occurred, but also in all the houses within six blocks right, six left, and six back of that in which cases had taken place; we were greatly aided and assisted in the work by he able services of the sanitary police officers of the First, Second, and Fourth Districts; the Auxillary

Sanitary Association had kindly furnished us with the services of three men and a cart; the city authorities had sent us a large supply of copperas, lime, sulphur and carbolic acid, also two carts and eight men.

I must here extend my most cordial thanks to Dr. R. A Bayley, Sanitary inspector of the First District, and to Dr. W. R. Mandeville, Sanitary Inspector of the Fourth District, for the most valuable services they have rendered me in sharing with me the supervision and responsibility of our work of disinfection and sanitation of the infected portion of the district.

The following is the list of the disinfectants used:

Sulphate of iron (copperas)	50 barrels
Lime	30 barrels
Carbolic acid (Calvert's No. 5)	10 barrels
Sulphur	3 barrels

TABLE ILLUSTRATING THE DEATHS IN THE FOURTH DISTRICT OF THE CITY OF NEW ORLEANS DURING THE YEAR 1882.

NAMES OF DISEASES.	January.		February.		March.		April.		May.		June.		July.		August.		September.		October.		November.		December.		Total.		Total.
	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W&C
Malarial Fevers	3	....	2	1	2	....	....	....	1	3	5	3	..	1	4	....	2	....	5	...	1	1	2	2	27	11	38
Typhoid Fever	....	....	1	....	....	....	....	....	3	2	1	....	1	....	4	....	....	....	....	....	1	....	3	....	14	2	16
Scarlet Fever	....	....	....	....	....	....	....	....	....	....	....	....	1	....	....	....	....	....	....	....	....	....	2	....	3	...	3
Measles	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1	....	1	....	1
Small-pox	3	3	3	3	11	4	3	4	7	3	6	2	4	3	2	2	3	3	9	2	4	3	11	4	66	36	102
Diphtheria	....	....	....	....	....	....	....	....	1	....	....	....	1	....	....	..	1	....	2	....	1	....	1	....	7	....	7
Diarrhœal Diseases	....	....	1	1	....	....	1	..	2	3	3	..	3	....	....	....	....	....	....	....	1	....	....	....	11	4	15
Congestion of the Brain	....	....	....	....	....	....	....	....	....	....	....	....	2	2	1	....	....	....	....	....	....	....	4	5	7	7	14
Sunstroke	....	....	....	....	....	....	....	....	....	....	1	....	....	....	....	....	....	....	....	....	1	....	....	....	2	....	2
Convulsions	2	....	....	3	....	1	3	2	2	3	7	....	....	....	1	1	5	1	1	....	5	....	4	...	30	11	41
Phthisis Pulmonalis	1	..	1	..	....	....	1	....	....	....	3	1	....	...	1	....	2	....	1	1	....	....	2	1	12	3	15
Deaths from all other causes	28	12	24	9	27	4	31	10	32	9	26	17	20	10	18	14	12	5	28	13	30	11	37	12	313	126	439
Total number of Deaths.	37	15	32	17	40	9	39	16	48	23	52	23	32	16	31	17	25	9	46	16	44	15	67	24	493	200	693
Death rate per 1000 Inhabitants per annum. White	14.49		12.52		15.67		15.28		18.81		20.37		12.52		12.14		9.79		18 02		17.24		26 25		16.09		.....
Colored	26.05		29.52		15 63		27.78		39.94		39.94		27.78		29.52		15.63		27.78		26.05		41 67		28.94		.....
Total	16.62		15.66		15.66		17.58		22.59		23 97		15.34		15.34		11.13		19.82		18.86		29.09		18.46		.....
Number Still-born	1	1	1	1	3	3	3	3	4	1	1	2	3	3	3	3	4	3	4	1	3	1	2	2	30	24	54

EXTRACT FROM THE REPORT OF WM. R. MANDEVILLE, M. D., SANITARY INSPECTOR, FOURTH DISTRICT, NEW ORLEANS, 1882.

OFFICE SANITARY INSPECTOR, FOURTH DISTRICT,
NEW ORLEANS, LA. January 1, 1883.

Joseph Jones, M. D., President Board of Health, New Orleans, La. :

Sir—I have the honor to transmit my annual report of the sanitary condition of the Fourth Municipal District and the work accomplished in connection therewith during the past year. This district ranks as third in the city, in the number of its population. The distinction of the classes of this population is more marked than that of the Second Municipal District, in which I had the honor of serving under your board until the fifteenth of last April, when I was transferred to this field of labor. The large number of elegant residences, with their ornamental grounds, which, ranging through the middle portion of the district, from its upper to its lower limit, have won for it the title of the "garden district," give evidence of the culture and refinement of its wealthier inhabitants. The front portion, from the river to Magazine street, is occupied by a thrifty and enlightened class of laborers, men who work in cotton presses, and in handling the staple along shore, and whose profitable labor, while it renders them vigorous and robust in constitution, furnishes them with the means of making their houses clean and comfortable abodes of health. With these advantages it would seem that we might look for a generally healthy condition in the district, even though we were unaided by the wise measures and expenditures of your honorable and efficient board. The advance of knowledge has given to hygiene the place formally occupied by the art of medicine: prevention has taken the place of cure; and it has been found cheaper for the community to ward off pestilence by the outlay of a few thousands of dollars, in the purchase of disinfectants, and the payment of proper sanitary officers, than to lose thousands of lives and millions of money, by neglecting to co-operate with the proper sanitary authorities of the State in providing measures for their safety.

The year which has just been added to the past, ought to be considered a notable one for our community. With the dreaded scourge to the right and left of us, and in front of us, baffling the skill of the *National Board of Health*, we have escaped; and when the fever was imported and made its appearance among us, is was instantly extirpated. With pestilence all around on our circumference, we stood safe in a charmed centre. Surely confidence should be reposed in those who live by curing disease, and yet devote their time and attention to its prevention and the diffusion of the knowledge of physiology and hygiene among the masses.

SMALL-POX.

One of the best illustrations of the extent to which ignorance and carelessness nullify the utility of advances in knowledge of methods for the prevention of disease, is found in the fact that small-pox still appears as a local epidemic, and sometimes with great mortality. If anything is known in preventive medicine, it is that this loathsome disease may be easily and certainly prevented in almost every case, and that it should never appear on the death register; yet to obtain such an universal and satisfactory vaccination and revaceination of each individual as will give this security, there is necessary the decided and persistent interference of the government to an extent which has not yet been provided in this country. These remarks are specially applicable at this moment, as this dread disease has suddenly acquired a strong hold in this district. There have occurred sixty-one cases, of which thirty-four were white and twenty-seven colored. There were fourteen deaths. It is safe to say that, had vaccination been practiced in these cases at the proper time, nine-tenths of them might have escaped this loathsome disease.

VACCINATION.

The diminution in the death rate since Jenner's discovery robs small-pox of most of its terrors; and, instead of its being a scourge which frequently sweeps over thousands of miles within an incredibly short space of time, it has not for many years been beyond the control of intelligent medical efforts. Modern statistics show that the modification of the disease by vaccination has been very decided. The proper management of the disease depends upon a perfect co-operation of the public, the general medical profession and the sanitary authorities, and promptness in making known the existence of a case is the first necessity. The concealment of cases, and prejudice against vaccination, on the other hand, have much to do with the propagation of the disease as well as with its fatality, and it is but just and proper, where medical men are negligent in reporting their connection with a case that a fine should be imposed upon them.

In the year 1881, there were but 247 persons vaccinated at this office where for the year 1882 there were vaccinated 1010 persons, of whom 284 were white and 726 colored. This contrast is very encouraging, for it goes to show that the public at large are rapidly realizing the importance of vaccination. There were 682 of these primary and 323 secondary vaccinations.

SHIPPING.

All vessels in this district were boarded shortly after their arrival. No sickness of an infectious or contagious nature was discovered on any of them. These visits were made regularly from May to October. But few vessels land on this side of the river, most of them being taken to Gretna, as wharfage is much less than on this side.

CEMETERIES.

All the cemeteries have been examined and a number of vaults repaired, especially in the Washington Street Cemetery, where complaint was made during the summer that a number of the vaults leaked and that the smell could be detected by the people living in the vicinity.

LOCAL SANITATION.

In July a *suspicious* case of yellow fever occurred at No. 1010 Tchoupitoulas street, a German, Louis Dischler by name. The man was a hard drinker, and had been sick ten days; he was removed to Charity Hospital, and died the day after. A post-mortem was held and the man was found to have died from intense jaundice. A minute microscopical examination of all the organs was made by myself, but nothing of a pathological nature could be found indicative of yellow fever. A thorough disinfecting of the entire neighborhood was instituted, from Magazine to the river front, Felicity to First, and from Washington to Toledano streets.

The number of vaults disinfected was 2634; the number of gutters disinfected was 108; the number of yards cleaned was 25; twenty barrels of copperas, and fifty gallons of carbolic acid were used. Sanitary measures, to be effectual, should be carried out at those times when most people see no special cause for anxiety, and often, therefore, appear to involve unnecessary labor and expense.

During a greater portion of the month of August, I was assigned to duty in the Third District, with officer Allen, to assist Dr. Mioton in the fumigation and disinfection of the infected portion of his district, where had occurred two cases of yellow fever.

During the entire month of September, I was assigned to duty as quarantine physician at Lookout Station, with officer Allen of the Fourth District, and Bohner of the First.

All trains from Mobile, and vessels entering Pearl river, were boarded and carefully inspected; passengers and freight from Pensacola were detained or else sent back from where they came. There were, therefore, no inspections made in this district for the month of September and a portion of August.

TABLE ILLUSTRATING DEATHS IN THE FIFTH DISTRICT OF THE CITY OF NEW ORLEANS DURING THE YEAR 1882.

NAMES OF DISEASES.	January.		February.		March.		April.		May.		June.		July.		August.		September.		October.		November.		December.		Total.		Total.
	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W&C
Small-Pox					2	2	2	1	1		1	4	1		1					1	1				9	8	17
Malarial Fevers		1							1			1	1	3	3	1		1	1	2			1	2	7	11	18
Typhoid Fever													1				1		1				1	1	4	1	5
Scarlet Fever													1							1					1	1	2
Measles																											
Small-Pox		1	2																			1			2	2	4
Diphtheria		1								2	2	1					1		1	1	2	1			5	7	12
Diarrhœal Diseases			1					1		2				1			2								3	4	7
Congestion of Brain								1						2								1	1		1	4	5
Sun-stroke																2			1		3				4	2	6
Convulsions	1	3	2		1	1	1		1				2	1	1	1	1							3	10	9	19
Phthisis Pulmonalis	1			1	1		1	1						1		1					1	1	1		5	5	10
Deaths from all other causes	4	1		3	1	1	7	3	11	3	1	2	1	7		2		5	6		1	4	4	4	36	35	71
Total number of Deaths	6	7	5	4	5	4	11	7	14	7	4	8	7	15	5	7	5	6	9	5	7	9	9	10	87	89	175
Death rate per 1000 Inhabitants per annum. White	11.80		9.83		9.83		21.63		27.54		7.87		13.77		9.83		9.83		17.70		13.77		17.70		14.26		
Death rate per 1000 Inhabitants per annum. Colored	21.54		12.31		12.31		21.54		21.54		24.61		46.12		21.54		18.46		15.38		27.69		30.77		22.82		
Death rate per 1000 Inhabitants per annum. Total White and Colored	15.60		10.80		10.80		21.60		25.20		14.40		26.40		14.40		13.20		16.80		19.20		22.80		17.60		
Death rate per 1000 Inhabitants per annum. Malarial Fevers	0.10								0.10		0.10		0.40		0.40		0.10		0.30				0.30		1.90		1.80
Death rate per 1000 Inhabitants per annum. Phthisis Pulmonalis	0.40		0.20		0.20		0.10		0.10				0.30		0.20		0.10						0.30		1.80		1.90
Number Still-born Children		2	3	1		1	1	1	2		2	1				2			3			1	1		10	11	21

Population—Whites, 6,100; Colored, 3,900. Total, 10,000.

EXTRACT FROM REPORT OF A. M. BERET, M. D., SANITARY INSPECTOR FIFTH DISTRICT, NEW ORLEANS, 1882.

OFFICE SANITARY INSPECTOR, FIFTH DISTRICT.
ALGIERS, Louisiana, January 1, 1883.

Joseph Jones, M. D., President State Board of Health, New Orleans, La.:

* * * * * * * * * *

THE OVERFLOW.

The crevasse at the Oak Grove plantation, situated about fifteen miles down the river, and immediately in the rear of Algiers, (about seven miles in a straight line) occurred in the month of April, and the back-water from it soon encroached upon the populated portion of the district until it reached in the upper part. the levees on the Mississippi River, necessitating the throwing up of a protection levee, so as to at least keep the most thickly inhabited part from being flooded. This was effectually consummated by the additional placing of a drainage machine at this levee at the intersection of Verret and Jackson streets, by which means all the drainage and sipeage waters were kept from accumulating. The crevasse was not closed, and the water covered the entire area until the falling of the river, when it gradually disappeared. It is quite natural to suppose that the health of the district after such an extensive overflow, lasting throughout the entire summer, would be seriously affected, and the mortality in the district be very heavy: but, to my surprise, I am able to state that Algiers has been, and is now, the healthiest district of the city of New Orleans, the death-rate amounting to only 17.60 per 1000 inhabitants. (See table of mortality).

DEATHS FROM ALL CAUSES IN THE SIXTH DISTRICT, CITY OF NEW ORLEANS, DURING 1882.

NAMES OF DISEASES.	January.		February.		March.		April.		May.		June.		July.		August.		September.		October.		November.		December.		Total.	
	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.
Malarial Fevers								1	1	1	3				3	2					4	2	1		12	6
Typhoid Fever							1		1				1		1				1					1	5	1
Scarlet Fever																										
Small-pox														2												2
Diphtheria					1																1				2	
Diarrhœal Diseases	1		1		1	1	5		3	4	4	1	1		1		2	3	1	1	2	2	3		25	12
Congestion of Brain				1			1		1		1				1						1		1		6	1
Convulsions											1	1		1		1		1							1	4
Phthisis Pulmonalis	1	2	2	3		2	3	1	1	1	2	1		1	6	1	1		3		4	2	5		28	14
Deaths from other diseases	9	4	5	1	11	11	11	6	8	4	17	7	16	6	7	9	7	6	14	5	16	11	16	5	137	75
Total Number of Deaths	11	6	8	5	13	14	21	8	15	10	28	10	18	10	19	13	10	10	19	6	28	17	26	6	216	115
Death rate per 1000 inhabitants per annum. Whites	11.00		8.00		13.00		21.00		15.00		28.00		18.00		19.00		10.00		19.00		28.00		26.00		21.60	
Colored	17.65		14.71		41.19		23.54		29.42		29.42		29.42		38.25		29.42		17.65		50.02		17.65		28.20	
Total	12.68		9.70		23.54		21.57		18.65		28.36		20.89		23.88		14.96		18.65		33.68		23.88		20.65	

TABLE ILLUSTRATING DEATHS IN THE SEVENTH DISTRICT OF THE CITY OF NEW ORLEANS DURING THE YEAR 1882.

NAMES OF DISEASES.	January.		February.		March.		April.		May.		June.		July.		August.		September.		October.		November.		December.		Total.		Total.
	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C	W.	C.	W.	C.	W.	C.	W&C
Malarial Fevers			1	1					1	1	1			2	1	1		3		1	2	1			6	10	16
Typhoid Fever																					1	1		1	1	2	3
Scarlet Fever																											
Small Pox						1												1		1		1				4	4
Diphtheria																											
Diarrhœal Diseases					1			1	1			1		2			1	1	1	1		1	1		5	7	12
Congestion of the Brain													1									1	1		2	1	3
Convulsions			1				1		2	1		1		1	1		1	2	1						7	5	12
Phthisis Pulmonalis			2		1		1	1	1		1		1												7	1	8
Deaths from all other causes	1	4	3	4		6	3	3	2	6	9	4	5	3	6	6	3		3	6	3	1	1	5	39	48	87
Total Number of Deaths	1	4	7	5	2	7	5	5	7	8	11	6	7	8	8	7	5	7	5	9	6	6	3	6	67	78	145
Death rate per 1000 Inhabitants per annum. White	3.84		26 88		7.69		19 20		26.88		42.24		26 88		30.72		19 20		19.20		23.04		11.53		21.44		
Death rate per 1000 Inhabitants per annum. Colored	15.42		19.28		26 99		19.28		37.19		23.13		37.19		26.99		26 99		34.70		23.13		23.13		25 06		
Death rate per 1000 Inhabitants per annum. Total White and Colored	9 62		23.09		17.31		19 .24		28.86		32.71		28.86		28 86		23.09		23 73		23.09		17.31		23.25		

MORTALITY OF NEW ORLEANS DURING 1882.

In addition to the data already recorded illustrating the mortality of 1882 we present the following:

DEATHS IN NEW ORLEANS DURING 1882, CLASSIFIED BY AGES, SEX AND COLOR.

AGE.	Whites.		Colored.		Total White and Colored.		Grand Total.
	Males.	Females	Males.	Females	Males.	Females	
Under one year	398	293	230	186	628	479	1107
1 to 2 years	88	81	51	58	139	139	278
2 to 5 years	82	90	82	72	164	162	326
5 to 10 years	82	46	58	51	140	97	237
10 to 15 years	51	31	46	30	97	61	158
15 to 20 years	44	49	57	64	101	113	214
20 to 25 years	108	84	95	66	203	150	353
25 to 30 years	107	90	76	56	183	146	329
30 to 40 years	246	150	140	130	386	280	666
40 to 50 years	274	142	117	88	391	230	621
50 to 60 years	277	141	93	89	370	230	600
60 to 70 years	219	133	91	87	310	220	530
70 to 80 years	106	101	50	82	156	183	339
80 to 90 years	20	39	22	38	42	77	119
90 to 100 years	2	7	11	9	13	16	29
100 years and upwards	.....	1	5	6	5	7	12
Unknown	.....	.....	1	3	1	3	4
Total	2104	1478	1225	1115	3329	2593	5922

Total deaths 1882. Males, whites, 2104; colored, 1225. Total males, 3329. Females, whites, 1478; colored, 1115. Total females, 2593. Grand total, 5922. Total whites: 3582; total colored, 2340.

Average daily mortality in New Orleans during the year 1882, 16.22.

Lowest daily mortality in first six months of 1882, January 19, when only six deaths occurred.

Highest daily mortality in first six months of 1883, April 29, when thirty-four deaths occurred.

Lowest daily mortality of last six months of 1882, on August 11, and October 1, when five deaths were recorded upon each of the days specified.

Highest mortality during the last six months of 1882, October 14, when thirty deaths occurred.

The highest daily mortality occurred on the twenty-ninth of April, and the next highest on October 14.

The lowest daily mortality occurred on August 11, October 1 and January 19.

The flushing of the gutters with Mississippi River water, under the auspices of the New Orleans Auxiliary Sanitary Association, sustained by the pecuniary assistance afforded by the honorable Common Council and by the voluntary contributions of the citizens, has without doubt, been the means of removing considerable quantities of filth toward the rear of the city, and into the drainage canals, by means of the gutters running perpendicularly to the river.

It may be stated as a general proposition, that all gutters running parallel with the Mississippi River were and are, at the end of 1882, in bad sanitary condition.

The absurd and unsanitary and expensive system of raking up the foul mud and stinking contents of the gutters into the streets, to await the action of the next rain, still prevails with the Department of Improvements, despite the protests of various Boards of Health.

At the time of the change in the municipal government, the sanitary condition of New Orleans was an exact reflexion of the exhausted condition of her treasury, and corresponded with her unlighted streets and unpaid police.

Whether a change in the *form* of government, without any material change in the rulers, will rectify monetary, legal and sanitary evils, must be determined by the great revealer of all things—TIME.

It is worthy of note that a low death rate has been enjoyed by the white inhabitants of New Orleans, during a period in which there has been no system of underground sewerage.

It is also evident that if the white population has enjoyed unexampled health during the past four years, the supply of *water* could have been neither very impure nor very deficient.

RELATIONS OF THE RAINFALL OF 1882 TO THE MONTHLY MORTALITY.

MONTH.	Rainfall.	Mortality.	MONTH.	Rainfall.	Mortality.
	Cubic Inches.	Total Deaths.		Cubic Inches.	Total Deaths
January	4.59	465	July	6.84	460
February	4.04	417	August	9.47	443
march	0.92	465	September	1.59	400
April	4.83	539	October	2.16	489
May	6.83	589	November	1.98	506
June	2-71	561	December	4.27	585

It is evident from the following statistics :

1. That no fixed relation can be established between the rate of mortality and the rainfall.

2. The lowest mortality occurred in the month of September, when only 1.59 inches of rain fell.

The highest mortality occurred in the months of May and December ; the rainfall in May being 6.83 ; and the total mortality 589.

3. The drouth occasioned by the small rain fall of the months of September, October and November, and the consequent exhaustion of the smaller cisterns, much to the discomfort of washer-women and the inhabitants of crowded tenements, was seized upon and exaggerated by interested parties, and by the enemies of the Board of Health, to inflame the popular mind with the idea that suffering, disease and death were being caused by the scarcity of water, and that the Board of Health of the State of Louisiana was responsible for the alleged sufferings, of the people.

The Board of Health has, in its accurate statistics, the means of exposing this calumny.

It is well known that this Board has advocated the supply of pure water in abundance, from various sources, of fresh and cheap meats, for the benefit of the citizens of the parish of Orleans, and that it has been inflexibly opposed to all monopolies, and has uniformily condemned all sensational statements from any and every quarter.

DEATHS IN NEW ORLEANS DURING 1882, CLASSIFIED BY RACE AND GENERAL DIVISIONS OF DISEASES.

CLASS OF DISEASES.	White.	Colored	Grand Total.
General diseases, including fevers, phthisis pulmonalis and small-pox	1448	1030	2478
Diseases of the nervous system	554	316	870
Diseases of the respiratory system	265	202	467
Diseases of the digestive system	577	253	830
Diseases of the circulatory system	177	150	327
Diseases of the urinary and generative organs	92	73	165
Affections connected with parturition	18	10	28
Diseases of the organs of locomotion	5	11	16
Diseases of the cellular and cutaneous systems	8	2	10
Conditions not necessarily associated with general or local diseases	266	209	475
General injuries	85	47	132
Local injuries	22	12	34
Tumors, non-malignant	7	4	11
Congenital malformations	13	7	20
Suicide	32	3	35
Killed or wounded	13	11	24
Total	3582	2340	5922

DEATHS FROM SOME OF THE PRINCIPAL DISEASES IN NEW ORLEANS, DURING THE YEAR 1882.

Disease (General Diesases.)	White.	Colored.	Total.	Disease (General Diseases.)	White.	Colored.	Total.
Small-pox	116	299	415	Puerperal fever	10	3	13
measles	3	0	3	Acute rheumatism	6	3	9
Scarlatina	41	5	46	Chronic rheumatism	6	3	9
Cerebro-spinal fever	6	2	8	Syphilis	13	13	26
Enteric or typhoid fever	52	22	74	Syphilis congenital	4	4	8
Simple continued fever	3	2	5	Cancer of the breast	16	3	19
Yellow fever	4	0	4	Cancer of the liver	16	0	16
Intermittent fever	7	5	12	Cancer of the stomach	19	8	27
Remittent fever	32	25	57	Cancer of the womb	24	11	35
Congestive fever	111	48	159	Tubercular meningitis	7	6	13
Typho-malarial fever	36	10	46	Phthisis Pulmonalis	507	350	857
Malarial fever not classified	85	60	145	Tabes mesenterica	113	57	170
Cholera infantum	66	20	86	General dropsy	10	21	31
Diphtheria	37	5	42				
Whoopingcough	5	1	6	Total General Diseases	1448	1030	2478
Leprosy	2	2	2				

Under the class of general diseases, we propose to notice briefly, first the malaria fevers, scarlatina and diphtheria, reserving the consideration of phthisis, small-pox and yellow fever, for special record and discussion.

MALARIAL FEVER OF 1882.

During the first six months, of 1882, a marked increased in the mortality from the various forms of malarial fever occurred in the month of June.

Thus, during the six months ending the thirtieth of June, intermittent fever caused 4; remittent, 24; congestive, 70; typho-malarial, 24; malarial, not classified, 44; total from various forms of malarial fever, 160.

Deaths in the month of June, intermittent fever, 1; remittent, 6; congestive, 25; typho-maiarial fever, 6; malarial fever, 15; total 53.

Nearly one-third of the deaths from malarial fever occurred in June.

During the last six months of 1882, there was an increase in the deaths from malarial fevers, thus:

	Whites.	Colored.	Total.		Whites.	Colored.	Total.
Intermittent fever	6	2	8	Typho Malarial fever	17	5	22
Congestive fever	69	20	80	Malarial fever (unclassified)	61	40	101
Total					153	67	220

It will be observed that the colored race suffered equally, if not to a greater extent, from the destructive effects of the various forms of malarial, paroxysmal, paludal, or marsh fevers.

During the first six months of 1882, of the total deaths caused by the various forms of malarial fever, ninety-four occurred amongst the whites, and seventy-two amongst the colored.

It is evident that, in relation of population, the malarial fevers were relatively more fatal amongst the colored population.

This result is at variance with the opinions of many systematic writers.

A portion of the mortality from malarial fevers amongst the colored population is undoubtedly to be attributed to the fact that this class of the population occupies, to a large extent, the smallest houses in the rear of the city, towards the swamps and marshes.

Improper diet, crowding and the occupation of low, malarial situations, and the want of proper medical attention in many instances, may account for the greater mortality from malarial fevers amongst the colored race.

LOCAL DISEASES.

Disease (Nervous System).	White.	Colored.	Total.	Disease (Nervous System).	White.	Colored.	Total.
Congestion of the brain	53	20	73	Paraplegia	2	1	3
Encephalitis	7	1	8	Tetanus, traumatic	35	24	59
Meningitis	50	23	73	Tetanus, idiopathic	1	2	3
Softening of the brain	28	12	40	Trismus nascentium	90	82	172
Abscess of the brain	4	1	5	Hydrophobia	4		4
Apoplexy	68	39	107	Convulsions	3	10	13
Sunstroke	6	..	6	Convulsions, infantile	67	39	106
Spinal Meningitis	10	8	18	Epilepsy	19	1	27
Paralysis, unclassified	25	18	43	Delirium tremens	28	14	42
Hemiplegia	7	6	13	Mania	11	2	13
Total diseases of the nervous system					554	316	870

Of the total number of deaths caused by diseases of the nervous system, it is worthy of note that the largest proportion was caused by acute affections of the cerebro-spinal system. Thus, the deaths caused by the diseases specified were as follows. Congestion of brain, 73; encephalitis, 8; meningitis, 73; apoplexy, 107; sunstroke, 6; spinal meningitis, 18; tetanus, 62; trismus nascentium, 172; hydrophobia, 4; convulsions, 13; infantile convulsions, 106; delirium tremens, 42. Total from these diseases, 684; total from all other diseases of the nervous system, 96. Trismus nascentium and infantile convulsions caused 278 deaths out of a total of 870; that is, about one-third of the deaths caused by diseases of the nervous system were occasioned by the convulsive diseases of children. Trismus nascentium was relatively much more fatal amongst the colored population.

Diseases (Respiratory System).	White.	Colored.	Total.	Diseases (Respiratory System).	White.	Colored.	Total.
Croup	39	1	31	Asthma	16	9	25
Laryngitis	6	3	9	Pneumonia	106	107	213
Bronchitis, acute	47	36	83	Pleuritis	5	5	10
Bronchitis chronic	29	28	57				
Total diseases of respiratory					265	202	467

Of the thirty-one deaths occasioned by croup, only one death occurred amongst the colored population.

Acute bronchitis, pneumonia and pleuritis occasioned 306 deaths, out of a total of 467 deaths from diseases of the respiratory system.

Diseases (Digestive system).	Whites.	Colored.	Total.	Diseases (Digestive system).	Whites.	Colord.	Total.
Teething	36	24	60	Hernia (Strangulated	4	4	8
Gastritis	21	7	28	Hepatitis	34	12	46
Gastro-enteritis	21	0	21	Abscess of the liver	15	3	18
Enteritis	112	44	156	Cirrhosis of the liver	57	17	74
Dysentery	79	31	110	Jaundice	5	4	9
Obstruction of the bowels	12	3	15	Peritonitis	17	11	28
Diarrhœa	124	75	199	Ascites	6	5	11
Total diseases of the digestive system					577	253	830

Sixty deaths are recorded as due to *Teething*. A more accurate delineation or division of those diseases characteristic of dentition is desirable.

Inflammatory affections of the gastro-intestinal canal caused the following number of deaths: gastritis, 28; gastro enteritis, 21; enteritis, 156; dysentery, 110: diarrhœa, 199; total: 514, out of a grand total of 830 deaths from diseases of the digestive system.

Abscess of the liver occasioned only eighteen deaths: fifteen whites and three colored. As abscess of the liver is comparatively frequent among Europeans in tropical climates, it has been attributed to the effects of heat, or of alternations of heat and cold. Being occasionally associated with malarious fever and frequently with dysentery, it is supposed that it may be induced by the same causes as those diseases.

The opinion often advanced that abscess of the liver is always secondary to dysentery or to ulceration of the bowels has not been sustained by my experience in hospital and private practice. The proportion of cases in which liver abscess and dysentery are associated is extremely variable; it is more frequent in one year than in another, and also at one period of the year than at another. Observation has also shown that there are many fatal cases of abscess of the liver, in which the bowels have been found perfectly healthy; whilst on the other hand abscess of the liver can scarcely be considered to be very frequent in dysentery.

The predisposing causes of abscess of the liver appear to be the abuse of alcoholic stimulants, irregular habits, exposure and the effects of prolonged heat.

Hepatitis caused forty-six deaths: whites 34, colored 12. It will be observed that acute inflammation of the liver (hepatitis) is by no means an uncommon affection in New Orleans, and its chief causes are, without doubt, exposure to heat and to changes of temperature in this sub-tropical climate, irregular habits of life, spirit drinking and the action of malaria.

Cirrhosis of the liver caused seventy-four deaths; whites 57, colored 17.

Undoubtedly the most common cause of cirrhosis of the liver is abuse of spirituous liquors. Spirits unmixed with water seem to be more potent in causing cirrhosis than wine or malt liquors.

A small proportion of cases may be referred to the prolonged and constitutional action of the syphilitic poison, and some cases have been referred to the immoderate use of spices and coffee, whilst, in rare instances, no cause has been apparent.

From numerous clinical observations and post-mortem examinations, I am convinced that the prolonged action of the malarial poison may result in a cirrhotic condition of the liver of a peculiar nature, attended with the deposit of much pigmentary matter in the lobuli.

Whitout doubt, a portion of the eleven deaths referred to ascites, and of the thirty-one deaths referred to general dropsy, were complicated by cirrhosis of the liver.

Diseases (Circulatory System).	White.	Colored.	Total.	Diseases (Circulatory System).	White.	Colored.	Total.
Pericarditis	4	4	8	Angina pectoris	4	2	6
Dropsy of pericardium	3	1	4	Fatty degeneration of heart	2	4	6
Endocarditis	8	3	11	Rupture of heart	2	..	2
Valvular disease of heart	38	47	85	Aneurism of aorta	12	6	18
Hypertrophy of heart	13	3	16	Heart disease, unclassified	87	86	167
Dilatation of heart	3	..	3				
Total diseases of the circulatory system					177	150	327

Diseases (Urinary and generative organs).	Whites.	Colored.	Total.	Diseases (Urinary an gen'tive organs)	Whites	Colored.	Total.
Bright's disease, acute	14	7	21	Calculus	1	..	1
Bright's disease, chronic	59	58	117	Uræmic poisoning	2	..	2
Suppression of urine	..	1	1	Ovarian dropsy	..	1	1
Cystitis	10	2	2				
Total diseases of urinary and generative system					92	73	165

Bright's disease occasioned 138 deaths out of a total of 165, caused by diseases of the urinary and generative system, whilst only a single death was caused by calculus.

The absence of calculous diseases in New Orleans is, without doubt, referable, chiefly, to the extensive use of cistern water:

The large number of deaths occasioned annually by Brights disease should attract the attention of the sanitarian and physician.

The term *Bright's disease* is now universally recognized as generic, and as including at least three different diseases of the kidney, namely: 1 The *inflammatory affection*, affecting the tubules, or the stroma, or both. 2. The *waxy or amaloid affection*, originating in the vessels. 3. *cirrhotic or gouty affection*, originating in the fibrous stroma.

With reference to the ætiology of Bright's disease, the following facts are now generally accepted by those physicians and pathologists, who have carefully investigated this subject.

1. *Of the Inflammatory Form of Bright's Disease.*—Cold is the commonest cause in the adult; acting especially upon those who have been exposed to its influence whilst perspiring. Various blood diseases, while they induce temporary albuminuria, along with their more ordinary symptoms, have renal inflammation as a common sequela. Among these, scarlatina occupies the first place; diphtheria stands next in order, followed by erysipelas, measles, pyæmia, typhus, intermittent, remittent and congestive malarial fevers, acute rheumatism and pneumonia. Many of these maladies being most common in childhood, it follows that in the earlier years of life, they are the chief causes of inflammatory Bright's disease. Pregnancy, heart disease, gout and malaria contribute towards its production in some cases, and the undue use of cantharides, turpentine or alcohol may also be reckoned as causes.

That the malarial poison is capable of inducing active congestion, hæmaturia, albuminuria and structural alterations of the kidneys, has been established by numerous observations. That form of malarial fever characterized by intense jaundice, obstinate vomiting, renal congestion and hæmorrhage, uræmic poisoning and convulsions, is not so frequent in New Orleans as in St. John the Baptist and in St. James parish, and in and around Selma, Ala., and in certain sections of Georgia and Texas.

Malarial hæmaturia illustrates the action of the malarial poison in the most intense degree upon the renal structures. Cases of albumnuria following and accompanying the various forms of malarial fever, were observed during the past three years, and in some instances the patients were brought directly from the swamps on the line of the railroads traversing Tennessee, Mississippi and Texas.

It is well established that the urine of specific yellow fever is characterized by albumen and granular casts; how far this disease may be the cause of the inflammatory form of Bright's disease, has not yet been determined, but the subject is worthy of careful investigation.

2. *Of the Waxy Form*—Constitutional syphilis, phthisis and prolonged suppuration, caries or necrosis of bone, and other exhausting diseases, such as cancer or chronic rheumatism, induce this degeneration.

3. *Of the Cirrhotic Form*—The commonest cause is the abuse of alcohol, particularly in the form of ardent spirits. Gout and lead poisoning are far less frequent causes of the cirrhotic form of Bright's disease.

This form of the disease is, however, met with in people who have neither indulged in alcohol, been exposed to lead, nor suffered from gout. Congestion from cardiac disease has been erroneously held by some authorities to be a cause of the cirrhotic form of Bright's disease.

DISEASE. (Affections connected with parturition).	White.	Colored.	Total.	DISEASE. (Affections connected with parturition).	White.	Colored.	Total.
Difficult labor (cause stated)	1	1	2	Puerperal septicaemia	2	..	2
Hæmorrhage	4	2	6	Exhaustion after delivery	2	..	1
Metroperitonitis	2	3	5	Vomiting in pregnancy	1	..	1
Puerperal convulsions	6	4	10	Inflammation of breast	1	..	1
Total affections connected with pregnancy					18	10	28

DISEASE. (Conditions not necessarily associated with local or general diseases).	White.	Colored.	Total.	DISEASE. (Conditions not necessarily associated with local or general diseases).	White.	Colored.	Total.
Premature birth	28	14	42	Accidental poisoning by—			
Difficult birth	1	1	2	Opium	1	..	1
Umbilical hæmorrhage	5	2	4	Creosote	1	..	1
Old age	33	31	64	Oxalic acid	1	..	1
General debility	1	2	3	Laudanum	1	1	2
Infantile debility	51	58	109	Carbolic acid	1	..	1
Senile debility	107	86	192	Chloral hydrate	1	..	1
Inanition	37	14	51				
Total conditions not necessarily connected with local or general diseases					266	209	475

DISEASE.	White.	Colored.	Total.
General injuries	85	47	132
Local injuries	22	12	34
Total general and local injuries	107	59	166

Of the general injuries, burns caused deaths, whites, 12, colored 14, total 26; scalds, whites 4, multiple injuries, whites 14, colored 4, total 18; shock from surgical operation, whites 1, colored 1, total 2; drowning, whites 39, colored 23, total 62.

Of the local injuries, fracture of the skull caused deaths, whites 7; concussion of brain, whites 2, colored 2, total 4; compression of brain, whites 2; gun-shot wound of heart, whites 1, colored 1, total 2; gun-shot wound of chest, whites 4; gun-shot wound of abdomen, white 1, colored 1, total 2; gun-shot wound of spine, colored 1; gun-shot wound of knee, colored 1; gun-shot wound of back, colored 1; incised wound of abdomen, colored 1.

DISEASES (Suicide).	White.	Colored	Total.
By drowning	8	1	9
By hanging	1	.....	1
By shooting	13	2	15
By cutting	1	.....	1
By poison	7	.....	7
By laudanum	1	.....	1
By fracture of skull	1	.....	1
Total suicides	32	3	35
Killed or murdered—			
By shooting	7	4	11
By stabbing	5	4	9
By cutting	....	2	2
By beating	.....	1	1
By lightning	1	.....	1
Total killed or murdered	13	11	24

TABLE SHOWING MORTALITY FROM SOME OF THE PRINCIPAL DISEASES IN THE FIRST DISTRICT OF THE CITY OF NEW ORLEANS DURING THE YEAR 1883.

NAMES OF DISEASES.	January.		February.		March.		April.		May.		June.		July.		August		September.		October.		November.		December.		Total.		Grand Total.
	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W&C
Malarial Fevers	10	1	3	4	4	6	6	4	7	2	18	2	17	8	18	1	25	6	27	8	25	6	19	5	179	53	232
Typhoid Fever	2	1	1	1	....	....	....	....	1	..	1	..	....	....	....	....	1	..	1	1	....	....	2	1	9	4	13
Scarlet Fever	1	....	1	1	....	1	1	2	1	..	1	....	....	....	1	....	1	....	....	....	2	....	1	....	10	4	14
Yellow Fever	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1	....	....	....	1	....	1
Small-pox	9	17	12	18	10	14	12	11	22	29	9	31	11	17	5	14	3	8	3	5	2	7	....	2	98	173	271
Diphtheria	....	....	....	....	3	..	....	....	....	....	1	....	3	....	....	....	1	..	....	....	....	....	2	....	10	....	10
Diarrhœal Diseases	15	11	7	4	10	6	9	2	17	7	16	5	11	6	7	3	10	7	17	8	34	12	35	5	188	76	264
Congestion of the Brain	2	1	2	....	3	...	3	3	2	3	2	1	4	1	5	1	4	...	4	....	5	....	3	....	39	10	49
Consumption	24	8	24	8	23	10	13	12	16	10	16	6	20	9	15	13	17	18	16	14	23	11	20	12	227	131	358
Pneumonia	10	6	8	10	13	12	10	5	4	4	3	3	1	...	..	1	7	1	1	4	5	3	14	11	76	60	136
Measles	....	....	....	....	....	....	....	....	1	....	4	..	3	....	....	....	....	....	....	....	....	....	....	....	8	..	8
Deaths from all other causes	90	36	85	52	72	40	56	40	70	39	66	33	98	44	56	44	63	43	73	41	93	49	74	50	876	506	1382
Total	163	81	143	98	138	89	110	79	141	94	137	81	148	82	107	77	132	83	142	81	190	86	170	86	1721	1017	2738
Grand total	244		241		227		189		235		218		230		184		215		223		276		250				
Death rate per 1000 population. White	41 97		36.82		35.53		28.32		36.31		35.28		38 32		27.55		34 00		36.56		48.92		43.80		36.93		
Death rate per 1000 population. Colored	63.11		15.06		69.34		61.55		73.25		63 11		63.24		60.00		64.66		63.11		67.01		67.01		66.03		
Death rate per 1000 population. Total white and colored	47.22		46.69		43.77		35.58		45 48		42 19		42.90		35 61		41 61		43.16		53.42		49.51				44.16

Estimated population—White, 46,600; colored, 15,400; total, 62,000.

Note—Deducting from the total mortality of the district, the proportion according to population, of the deaths which occurred in the Charity Hospital, Hotel Dieu and Small-pox Hospital, not belonging to the district, reduces the total mortality of the district to 2064; and the death rate per 1000 population to 33.29.

TABLE SHOWING MORTALITY FROM SOME OF THE PRINCIPAL DISEASES IN THE SECOND DISTRICT, CITY OF NEW ORLEANS, DURING THE YEAR 1882.

NAME OF DISEASES.	January.		February		March.		April.		May.		June.		July.		August.		September.		October.		November.		December.		Total.		Grand Total.
	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W&C
Malarial Fevers	1	1	5	3	4	2	...	2	3	3	7	3	4	3	3	3	4	1	7	4	3	3	4	1	45	29	74
Typhoid Fever	1	3	2	...	...	1	...	...	...	...	1	...	1	2	...	...	1	1	...	...	1	1	...	2	7	10	17
Scarlet Fever	1	...	...	...	1	...	1	...	...	...	1	...	...	...	1	...	...	...	...	...	...	...	...	...	5	...	5
Small-pox	....	11	11	17	21	36	28	36	18	22	9	20	7	7	6	6	5	9	....	1	1	2	1	4	107	171	278
Diphtheria	2	...	5	....	1	1	....	1	2	...	1	....	1	1	....	....	2	1	....	1	1	....	2	....	17	5	22
Diarrhœal Diseases	4	4	2	1	2	1	4	1	6	3	9	....	7	5	6	1	7	1	9	2	15	7	10	5	81	31	112
Congestion of Brain	1	....	....	1	....	2	1	2	....	....	....	....	2	....	2	2	1	1	1	....	2	....	1	....	11	8	19
Consumption	10	1	9	2	11	4	5	8	10	5	9	4	6	6	12	9	4	5	7	7	8	9	8	5	99	65	164
Pneumonia	5	8	5	2	7	3	2	3	4	2	2	....	1	1	2	1	4	....	2	3	2	1	5	3	41	27	68
Measles	....	....	....	....	....	....	....	....	....	....	1	....	....	....	1	....	....	....	....	1	....	....	....	1	2	2	4
Deaths from all other causes	36	20	25	22	30	27	32	30	31	18	33	21	34	17	29	18	30	27	37	25	44	20	34	26	395	271	666
Total number of deaths	61	48	64	48	77	77	73	83	74	53	73	48	63	42	62	40	58	46	63	44	77	43	65	47	810	619	1429
Grand total	109		112		154		156		127		121		105		102		104		107		120		112				
Death rate per 1000 — Whites	21.72		22.79		27.42		25.97		26.35		25.99		22.42		22.08		20.65		22.40		27.42		23.14		24.03		
Death rate per 1000 — Colored	39.72		39.72		63.72		68 69		43.86		39.72		34.75		33.10		38.19		36.41		37.24		38.96		42.69		
Death rate per 1000 — Total	28.37		28.09		38.34		38.83		31.62		30.12		26.14		25.39		25.85		26 64		29.87		28.09		.....	.....	29.64

Estimated population for 1883—White, 33,700; colored, 14,500; total, 48,200.

NOTE—Adding to the total mortality of this district the proportion, according to population, of the deaths which occurred in the Small-pox and Charity Hospitals and Hotel Dieu increases the total mortality of the district to 1689, and the death rate per 1,000 population to 35.04.

TABLE SHOWING MORTALITY FROM SOME OF THE PRINCIPAL DISEASES IN THE THIRD DISTRICT, CITY OF NEW ORLEANS, DURING THE YEAR 1883.

DISEASES.	January.		February.		March.		April.		May.		June.		July..		August.		September.		October.		November.		December.		Total.		Grand Total.
	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C	W.	C.	W.	C.	
Fevers—																											
Malarial	2	..	5	1	3	2	1	2	6	2	1	3	5	5	6	3	6	6	3	1	2	1	2	1	42	27	69
Typhoid	2	...	....	....	1	....	1	1	....	....	....	....	....	1	....	....	....	....	1	....	1	....	....	....	6	2	8
Scarlet	....	....	....	....	....	....	....	....	....	....	....	....	....	1	....	....	....	....	....	....	1	....	....	1	1	2	3
Small-pox	9	13	19	36	26	86	39	92	26	25	12	25	5	3	5	1	2	....	....	....	....	..	....	1	143	282	425
Diphtheria	1	....	....	....	....	....	2	....	....	1	1	....	2	...	1	2	1	2	3	2	2	1	2	....	15	8	23
Diarrhœal Diseases	3	2	2	1	4	1	5	1	5	9	12	5	13	4	3	1	3	2	9	3	5	5	7	..	71	33	104
Congestion of Brain	1	1	....	1	2	....	1	....	....	....	1	....	1	...	4	....	1	....	1	....	1	....	1	1	14	3	17
Consumption	3	2	10	4	6	3	1	2	7	6	3	3	7	4	6	3	4	8	3	9	4	12	5	4	59	61	120
Pneumonia	5	7	6	2	2	3	2	4	1	2	....	4	....	1	...	1	4	1	2	1	3	1	3	2	28	29	57
Measles	....	....	....	....	1	....	....	....	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	2	....	2
Other causes	45	23	39	18	33	24	40	18	41	25	45	12	35	13	27	23	34	22	40	24	49	22	48	26	476	248	724
Totals	71	46	81	62	78	119	92	121	87	70	75	52	68	32	52	34	55	41	62	40	68	42	68	36	857	695	1552
Grand Total	117		143		197		213		157		127		100		86		96		102		110		104				
Rate per 10 00 population — Whites	23.47		26.77		28.54		30.41		28.76		24.79		22.48		17.19		18.18		20.49		22.48		22.48		23.61		.....
Rate per 10 00 population — Colored	42.46		57.23		109.84		111.69		64 61		47.23		29.54		31.38		37.84		36.92		38.77		33.23		53 46		.....
Rate per 10 00 population — Total	29.39		34 80		47.95		51.84		38.21		30.91		24.34		20.93		23.36		24.82		26.77		25.31		...		31.48

Estimated population for 1883—White, 36.200; colored, 13,000; total. 49,300.

NOTE—Deducting from the total mortality of this district, the proportion, according to population, of the deaths which occurred in the Luzenberg Small-pox Hospital, and adding to the total, the proportion of the deaths belonging to the district, which occurred in the Charity Hospital. Hotel Dieu and City Small-pox Hospital, increases the total mortality to 1661, and the death rate per 1000 population to 33.69

TABLE SHOWING MORTALITY FROM SOME OF THE PRINCIPAL DISEASES IN THE FOURTH DISTRICT OF THE CITY OF NEW ORLEAN DURING THE YEAR 1883.

NAMES OF DISEASES.	January.		February.		March.		April.		May.		June.		July.		August		September.		October.		November.		December.		Total.		Grand Total.
	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W&C
Malarial Fevers	1	...	2	....	1	...	3	....	2	....	4	1	2	3	2	2	2	2	5	1	2	1	1	...	27	10	37
Typhoid Fever	1	....	1	....	....	1	....	....	1	....	....	....	....	....	1	....	....	....	....	....	1	....	2	....	7	1	8
Scarlet Fever	2	1	....	....	2	....	....	....	1	....	1	....	....	....	2	....	....	....	1	....	....	....	....	....	9	1	10
Small-pox	4	9	4	7	7	4	12	7	6	....	7	5	5	2	9	5	1	....	1	....	..	....	....	....	56	39	95
Diphtheria	2	....	1	....	....	....	1	....	....	....	....	....	....	....	....	....	....	....	....	....	2	....	3	....	9	....	9
Diarrhœal Diseases	3	1	....	1	2	1	3	1	6	5	13	1	6	....	4	....	7	....	5	2	8	2	3	1	60	16	76
Congestion of Brain	....	....	....	....	2	....	....	....	2	....	....	....	....	1	1	....	....	....	1	1	....	1	....	....	6	3	9
Consumption	4	1	4	4	11	3	8	3	1	....	6	5	5	6	2	2	8	5	8	2	5	10	4	4	66	45	111
Pneumonia	9	2	2	....	5	3	2	2	1	2	1	1	....	....	....	....	2	....	2	....	2	1	2	1	27	12	39
Measles	....	....	....	....	....	....	....	....	....	....	1	....	....	....	....	....	....	....	....	....	....	....	1	....	2	....	2
Deaths from all other causes	34	10	25	12	16	15	25	11	23	11	30	16	27	5	22	12	39	7	32	8	23	9	32	9	328	125	453
Total	59	24	39	24	46	27	54	24	43	18	63	29	45	17	43	22	59	14	55	14	43	24	48	15	597	252	849
Grand total	83		63		73		78		61		92		62		65		73		69		67		63				
Death rate per 1000 population. White	21.45		14.18		16.73		19.64		15.63		22.99		16.33		15.63		21.45		20.00		15.63		17.46		18.09		.....
Death rate per 1000 population. Colored	36.92		36.92		41 54		36.92		27.95		44.61		26.15		33.86		21.54		21.54		36.92		23.08		32.31		.....
Death rate per 1000 population. Total white and colored	24.41		18.52		21.47		22.22		17.69		27.05		18.23		19.12		21.47		20.29		19.70		18 52		.....		20.81

Estimated population for 1883—Whites, 33,000; Colored, 7,800. Total, 40,800.

NOTE—Adding to the total mortality of this district the proportion, according to population, of the deaths which occurred in the Small-pox Hospital, the Charity Hospital and Hotel Dieu increases the total mortality of the district to 993, and the death rate per 1,000 population to 24.33.

TABLE SHOWING MORTALITY FROM SOME OF THE PRINCIPAL DISEASES, IN THE FIFTH DISTRICT OF THE CITY OF NEW ORLEANS DURING THE YEAR 1883.

DISEASES.	January.		February.		March.		April.		May.		June.		July.		August.		September.		October.		November.		December.		Total.		Grand Total.
	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	
Malarial Fevers	....	....	1	....	....	4	1	1	....	2	....	3	....	1	2	1	1	....	1	....	1	....	2	1	9	13	22
Typhoid Fever	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1	1	....	....	....	2	1	3
Scarlet Fever	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1	....	....	....	....	....	....	....	....	....	1	....	1
Small-Pox	1	....	....	....	....	4	3	6	7	18	15	14	12	8	3	9	....	11	1	4	11	6	3	1	56	81	137
Diphtheria	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Diarrhœal Diseases	....	....	1	....	....	....	....	....	3	1	1	....	....	....	2	1	....	....	1	..	....	1	2	....	10	3	13
Congestion of Brain	....	....	....	....	....	....	1	....	....	....	....	....	1	....	....	....	....	....	1	....	....	....	....	....	3	....	3
Consumption	....	....	....	1	....	2	2	1	2	1	1	1	1	....	2	....	1	3	2	2	....	1	1	4	12	16	28
Pneumonia	....	....	....	....	....	1	1	....	1	....	....	....	....	....	....	....	....	....	....	1	....	....	....	....	2	3	5
Measles	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Other causes	8	4	5	1	2	2	9	3	6	4	3	4	9	3	3	4	6	1	6	4	10	4	5	3	72	37	109
Total	10	4	7	2	2	13	17	11	19	26	20	22	23	12	13	45	8	15	12	12	23	12	13	10	167	154	321
Grand total	14		9		15		28		45		42		35		28		23		24		35		23		....	....	
Rate per 1000 population — White	26.54		15.85		4.54		38.49		43.02		45.26		52.07		27.54		18.11		29.02		52.07		27.54		31.51		....
Rate per 1000 population — Colored	11.16		5.58		36.28		30.69		72.56		61.39		33.49		41.86		41.86		33.49		33.49		27.89		35.81		....
Rate per 1000 population — Total	17.50		11.25		18.75		35.00		56.25		52.69		43.75		35.00		28.75		30.00		43.75		28.75		....	....	33.43

Estimated population—White, 5,300; colored, 4,300; total, 9,600.

NOTE—Adding to the total mortality of the district, its proportion, according to population, of the deaths which occurred in the Charity Hospital, Hotel Dieu and Small-pox Hospital, increases the total mortality to 374, and the death-rate per 1000 population to 38.95.

TABLE SHOWING MORTALITY FROM SOME OF THE PRINCIPAL DISEASES IN THE SIXTH DISTRICT OF THE CITY OF NEW ORLEANS DURING THE YEAR 1883.

NAMES OF DISEASES.	January.		February.		March.		April.		May.		June.		July.		August.		September.		October.		November.		December.		Total.		Grand Total.
	W.	O.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W&C
Malarial Fevers	1	....	....	....	1	2	....	..	....	....	1	1	....	....	....	....	5	3	2	2	2	....	2	.	14	8	22
Typhoid Fever	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.....
Scarlet Fever	....	....	....	....	2	....	1	....	....	....	....	....	....	....	....	....	....	....	....	....	1	....	....	....	4	....	4
Small-pox	1	....	2	2	8	4	8	7	1	1	1	1	3	3	1	1	....	....	....	....	....	....	2	....	27	19	46
Diphtheria	....	....	....	....	2	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1	....	....	....	3	....	3
Diarrhœal Diseases	2	....	....	....	1	1	1	....	5	1	7	2	1	1	3	...	3	2	....	....	2	1	4	2	29	10	39
Congestion of the Brain	....	....	....	....	....	....	....	....	2	....	....	....	1	....	1	....	....	1	1	.	....	....	2	....	7	1	8
Consumption	3	....	4	2	5	2	3	2	1	1	3	1	1	....	2	1	2	1	1	2	7	1	3	1	35	14	49
Pneumonia	....	1	2	3	5	2	1	....	2	1	1	....	1	....	2	....	....	....	3	....	1	....	4	....	22	7	29
Measles	....	....	....	....	....	....	....	....	....	....	....	1	....	....	....	....	....	....	....	....	....	....	....	....	....	1	1
Other causes	13	5	8	2	9	7	11	3	10	7	15	5	14	4	12	8	16	7	19	11	20	11	21	8	168	78	246
Total	20	6	16	9	33	18	25	12	21	11	28	11	21	8	21	10	26	14	26	15	34	13	38	11	309	138	447
Grand total	26		25		51		37		32		39		29		31		40		41		47		49		.....		
Death rate per 1000 population. White	18.75		15.06		30.46		23.43		19.68		26.25		19.68		19.68		24.38		24.38		31.87		35 61		24.14		....
Death rate per 1000 population. Colored	16.00		24.00		48.00		32.00		29.33		29.33		21.23		16.56		37.33		37.33		34.66		29.33		30.66		.
Death rate per 1000 population. Total white and colored	18.03		17.34		35.27		25 66		22.19		27.05		20.12		21.50		27.74		27.74		32.60		33.98		.....		25.84

Estimated population—White, 12,800; colored, 4,500; total, 17,300.

NOTE—Adding to the total mortality of the district, the proportion according to population, of the deaths which occurred in the Charity Hospital, Hotel Dieu and Small-pox Hospital, increases the total mortality to 527; and the death rate per 1000 population to 30.46.

TABLE SHOWING MORTALITY FROM SOME OF THE PRINCIPAL DISEASES IN THE SEVENTH DISTRICT, OF THE CITY OF NEW ORLEANS DURING THE YEAR 1883.

DISEASES.	January.		February.		March.		April.		May.		June.		July.		August.		September.		October.		November.		December.		Total.		Grand Total.
	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W&C
Malarial Fevers		1			3					1		1			2	1	2	3	1	3	4				12	10	22
Typhoid Fever	1																						1		2		2
Scarlet Fever			1																		1				2		2
Small-pox		2		3		1							1		2		1	1	1	1	1				6	8	14
Diphtheria																											
Diarrhœal Diseases		1			1		1		1		3	1	1		1			1	1	1	1	1			10	5	15
Congestion of the Brain											2				1		1								4		4
Consumption	1			2	1			2		2				1		3	1	1				1		1	3	12	15
Pneumonia	3		1	1		2				2						1				1	2	1	2		8	8	16
Measles												1														1	1
Other causes	4	1	2	4	3	6	2	7	2	1	3	4	3	5	6	8	2	6	4	2	8	4	5	4	44	52	96
Total	9	5	4	10	8	9	3	9	3	6	8	7	5	6	12	13	7	12	7	8	17	6	8	5	91	96	187
Grand total	14		14		17		12		9		15		11		25		19		15		23		13				
Rate per 1000 population — White	32.73		14.54		29.09		10.90		10.90		29.09		10 90		43.63		25 45		25.45		61.82		29.09		27.58		
Rate per 1000 population — Colored	17.14		34.28		30.86		30.86		20 57		24 00		20.57		44.57		41.14		27.42		20.57		17.14		27.42		
Rate per 1000 population — Total	24.70		24.70		30.00		21.18		15.88		26.47		19.41		44.11		33 53		26 47		40.59		23.03				27.50

Estimated population for 1883—White, 3,300; colored, 3,500; total, 6,800.

NOTE—Adding to the total mortality of the district, the proportion according to population, of the deaths which occurred in the Small-pox Hospital, Hotel Dieu and Charity Hospital, would increase the total mortality to 210, and the death-rate per 1000 population to 30.89.

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TABLE P.

MORTUARY AND VITAL STATISTICS OF NEW ORLEANS FOR THE YEAR 1883, FROM ORIGINAL RECORDS, UNDER THE DIRECTION OF JOSEPH JONES, M. D., PRESIDENT OF THE BOARD OF HEALTH OF THE STATE OF LOUISIANA.

156 Washington Street, Corner of Camp Street, Fourth District. New Orleans, Louisiana, January, 1884.

	January.		February.		March.		April.		May.		June.		Total first 6 mos.			July.		August.		September.		October.		November.		December		Total last 6 mos.			Total for the Year.		
GENERAL DISEASES.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.&C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.&C.	W.	C.	W.&C.
Small-pox	24	52	48	83	72	149	102	159	80	95	53	96	379	634	1013	44	40	31	36	12	29	6	11	15	15	6	8	114	139	253	493	773	1266			
Measles					1		2		6	2	9	2	11	3		1						1		1		5	2	7	14	4	18			
Scarlatina	4	1	2	1	5	1	3	2	3		19	5	24		1	5		1		1		1		5		1		13	2	15	32	7	39			
Dengue																																		
Typhus fever																																		
Cerebro-Spinal fever				1		1		1	1		2	3	5													1		1		3	3	5		
Enteric or typhoid fever	8	4	4	1	1	2	1	1	2		18	8	26	1	3	1		2	1	2	2	4	1	5	3	15	10	25	33	18	51			
Simple continued fever	1		1		1						3		3	1												1		1	4		4			
Yellow fever																										1		1			1			
Ataxic fever																1										1		1			1			
Malarial fevers—																																		
Intermittent	2		2			1	1				2		7	1	8	4	2	2		4		4	1	4	1	5	2	23	6	29	30	7	37			
Remittent			1		1	2	4	2		1	6	1	12	6	18	2		9	2	13	5	10	3	6	1		1	40	12	52	32	18	70			
Congestive	6	2	5	4	12	5	1	5	11	4	10	5	44	25	69	12	8	11	4	15	2	15	5	14	2	13	3	86	24	104	124	49	173			
Typho-malarial	2		4						3	2	11	2	13	3	1					4		2	2	4		1		17	4	21	23	6	29			
Not classified	5	1	4	4	8	4	2	4	3	12	8	33	26	59	7	9	11	5	9	14	12	8	11	7	8	1	61	44	105	94	70	164			
Catarrhal fever	2	1		2		1				3		3	4	9		1	1	1								2	1	4	2	6	8	14			
Cholera morbus	1						1		1		1		3	4	7					4	3	1		2		1		7	7	14	10	11	21			
Cholera, malignant																																		
Cholera infantum	1	1					6		15	11	21	5	43	17	60	7	1	8		6	4	7	2	3	1	33	8	43	78	25	103			
Diphtheria	5		6		6	1	3	1	2	1	25	3	38	6	1	2	4	3	3	6	1	9	2	2	1	29	10	39	58	13	67			
Whooping-cough	1			1	1		2	2			3	3	6	2	1	3	3	6	2	4	4	7	4	4		26	16	42	29	19	48			
Influenza																																		
Malignant pustule																																		
Phagedena																1										1		1			1			
Congenital cachexia																																		
Hospital gangrene																																		
Erysipelas	1	1		1		2			1	1	1	1	6	6	12	1	1	1	1			1	2			5	3	8	11	9	20			
Septicæmia	1	1	1	1	2		1	2	2		2		9	4	13			2					2	1		3	3	3	11	7	18			
Osteo-arthritis										1	1	1	2																					
Leprosy																																		
Pyæmia			1	1					1	1	2		4			1							2			5		5	7		7			
Osteo sarcoma																1						1				1		1			1			
Puerperal fever	2	1			1		1			2	1	4	4	8		2		1	1			1	2			6	3	9	10	7	17			
Acute rheumatism				1		1			1	1	2	1	5	1	6																		
Chronic rheumatism	1			1		1			2	2	1	3	5	8		1										2	2	4	5	7	12			
Gout																																		
Syphilis	2		1		1		1		1	1	4	3	7	2		2		1	2	1	2	3	1	1		9	8	17	12	12	24			
Syphilis, congenital	1			1					1		2	1	3			1						1				2		2	3	2	5			
Scrofula		1		1							1	1	2							1	1	2		1		2	5	7	2	4	6			
Tubercular meningitis	2			1	1	1	1	2			4	4	8			1		1				1	1	1		4	3	7	3	2	5			
Phthisis pulmonalis	45	12	51	21	57	24	39	31	37	25	38	20	260	135	395	40	26	39	31	37	41	37	36	47	44	41	31	241	209	450	501	344	845			
Tabes mesenterica	7	1	4	2	3	2	4	10	13	7	10	5	41	27	68	13	4	12	3	9	4	11	7	26	5	11	4	82	27	109	123	54	177			
Lupus																																		
Diabetes					1			2			1	2	3			1		1								4		4	5	2	7			
Purpura																2		1		1		1				6		6	8		8			
Chlorosis																								1		1		1	4		4			
Anæmia					2		1	1	2		1	2	6	1	7			1				1		5		1	2	1	2	8	4	12	14	5	19			
General dropsy	1		2	2	3	1	1		1	2	10	4	14			1		2	1	1		2		1		4	7	11	14	3	17	25	10	35			
Cancer of the abdomen											1	1	2																			1		1
" " breast	1	1		1	1		1			1	1		4	2	6	1				1								1	2	3	5	3	8			
" " face			1										1		1		1									1		1	2		2	3		3			
" " liver	1			1		2					2		5	2	7											3	2	5	8	2	10	13	3	16			
" " stomach	1		2		2		3		1	1	2		9	1	10		1	1	1	1		4		2		1	1	13	3	16	22	4	36			
" " womb	2	1	2				1		3	1	2	1	13	4	17											1		7	11	18	30	15	45			
" " mesentery																																		
" " œsophagus																										1		1	2	1	3	1		1			
" " kidneys																																		
" " mouth			1								1		2		2																			
" " bowels	1								1				2		2							1				2		2	4		4			
" " penis			1										1		1																			
" " pharynx					1								1		1																			
" " not classified					2		1				1		4		4	2										2		2	6		6			
" " bladder									1				1		1									1		1		2	2		2			
" " ovary									1				1		1														1		1			
" " tongue																																		
" " neck																1												1		1			
	133	84	143	132	181	205	179	220	191	164	187	151	1014	956	1970	161	111	152	103	139	160	138	94	179	94	123	70	892	581	1473	1908	1537	3443			
LOCAL DISEASES.																																		
Diseases of the nervous system—																																		
Anæmia of the brain							1						1		1																			
Brain disease not classified																		1				1				1		2	1		1	3		3
Congestion of the brain	4	3	2	2	7	2	6	5	6	3	5	1	36	16	46	9	2	14	3	7	3	9	1	8		7	1	54	10	64	84	26	110			
Encephalitis	2		1		2		2		1	1	2	2	8	2	10	1		3	2	1		2		1		2		6	3	9	13	6	19			
Meningitis	6		2	4	4	4	6	7	5	4	7	2	30	21	51	3	2	5	1	3	2	6	1	2		1		25	7	32	50	32	82			
Softening of the brain	6	2	5		2	1	2	1	1	1	5		21	4	25	3		4		2		2		3		1		15	2	17	31	4	35			
Abscess of the brain							1						1		1																			
Apoplexy	10	1	6	2	13	6	11	3	9	6	13	2	62	21	83	6	5	6	7	9	6	8	4	7	3	13	12	47	37	86	111	58	169			
Sunstroke											2		2		2	1	1	1										2	1	3	4	1	5			
Chronic hydrocephalous	1				1		1					1	3	1	4	2		1		2	2	1		1	2			8	4	12	11	5	16			
Nervous exhaustion			1										1		1											1		1	2		2			
Diseases of the cerebral arteries—																																		
Atheroma																																		
Ossification									1				1		1																			
Chorea																								1				1		1	1		1	
Neuralgia																															3		3	
Myelitis																																		
Cerebro-spinal meningitis	4	4	8	3	1	3			1		4	1	18	11	29											4	2	6	23	13	36			
Inflammation of the middle ear										1			1		1																			
Alcoholism																3	2					1		2		1		6	2	8	2		2			
Paralysis, not classified	5	2	2		2	2	6	3	4	2	4		23	9	32	4		1		1		2	2	5	3	1	4	3	14	10	24	37	19	56			
" hemiplegia	2	2	2		1	1	1	2	1		8	4	12	2		1		2	2			1		1		1		6	4	10	14	8	22			
" paraplegia			1		1	1					1	3	4													1		1	3		3	4	1	5			
Locomotor ataxia											2	1	3			1										2	1	3	6		6	9		9			
Idiopathic tetanus	1				1		1						3		3											1		1	2	1	3	4	2	6			
Traumatic tetanus	7	3	4	1	3	1	1	2	4	4	4	2	18	14	32	6	2	8	2	3	2	5	2	3		20	11	31	38	25	63			
Trismus nascentium	8	7	6	10	5	2	5	8	4	4	9	13	37	44	81	6	3	9	3	12	9	11	17	12	8	8	10	7	56	58	114	93	102	195			
Hydrophobia																																		
Convulsions																																		
Convulsions, infantile	6	2	4	3	8	1	2	4	8	5	12	6	47	26	73	10	7	6	9	17	2	10	5	9	7	11	7	63	37	100	110	63	173			
Epilepsy			1	3		2		2	2	1	1	1	4	9	13	1		1	1	1		1				2	1	6	1	7	21	7	28			
Delirium tremens	3	2	5	1	2		2		2	2	2	1	15	6	21	3								2		1	1	4	2	6	8	4	12			
Mania	1	1			1								2	1	3																			
Paralysis of the insane		1					1				1		2	1	3											1		1	2		2	3		3			
Spinal sclerosis																																		
	66	31	49	37	48	29	54	34	50	34	73	33	440	198	538	65	30	51	39	60	32	70	16	54	27	63	31	464	295	759	761	405	1166			

	January.		February.		March.		April.		May.		June.		Total first 6 mos.			July.		August.		September.		October.		November.		December		Total last 6 mos.			Total for the Year.		
DISEASES OF THE CIRCULATORY SYSTEM.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.&C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.&C.	W.	C.	W.&C.
Pericarditis								1	1				1		2					1	2					3		3	5	1	6	8	2	10
Dropsy of Pericardium		1												1	1						1								1	2	1	3	4
Endocarditis	1		1		1				1	1	3	2	9	1	10														1	2	3	4	14
Aortic valve disease of heart	1										3	2	5	1	6														1	2	3	9	33
Mitral disease of heart	2		1	3	4	1	2	2	2	2	1	1	12	9	21	3	3	4	3	2	5	4	3	2	4	1	3	18	24	42	30	63	93
Hypertrophy of the heart																1												1		1	3	3	6
Dilatation of the heart																																		
Angina pectoris	1	1	1		1				1				3	2	5																		
Fatty degeneration of heart	2			2	1	3					1		4	2	6																		
Aneurism of heart																																		
Fatty degeneration of arteries																																		
Calcareous degeneration of arteries	1																																	
Aneurism of the aorta											1	1	2																					
Embolism, (locality stated)											1		1																					
Ossification of valves of heart																																		
Phlebitis												1	1																					
Phlegmasia dolens																																		
Heart-clot	1												1		1																			
Heart disease (not classified)	8	3	14	7	12	10	13	8	13	4	7	5	67	37	104	7	4	2	7	9	8	9	5	11	6	13	12	51	42	93	118	79	197
Paralysis of the heart											1	1	2		2																3		3
Thrombosis																															1		1
	18	6	18	12	23	12	19	13	22	12	14	11	114	66	180	19	9	13	13	14	20	21	13	24	12	22	16	113	82	195	227	148	375
DISEASES OF THE RESPIRATORY SYSTEM.																																		
Croup	3				2				2			1	8	1	9	1						1		2				4	1	5	13	1	14
Laryngitis	1										1	1	2	1	3																		
Oedema of glottis	1												1		1																		
Acute bronchitis	5	4	6	9	5	7	3	7	2	4	2	2	23	33	56	3	1	4	1	2	1	6	1	2	1	10	6	3	37	18	55	60	51	111
Chronic bronchitis	4	2	3	2	4	2	1	1	1		1		15	7	22																			
Asthma	5	2	3	1	2				2	1	1		13	4	17																			
Pneumonia	31	23	24	18	32	26	18	14	13	13	7	8	123	102	225	8	2	4	4	17	2	10	10	15	7	33	15	79	44	123	202	146	350
Gangrene of lungs			2				1				3	1	4																				
Emphysema of lungs		1		3	1						1	1	3																				
Arteriectasis					1								1																				
Acute Pneumonic Phthisis	1				1						2		3																				
Chronic Pneumonic Phthisis				1									1																				
Hæmoptosis					2		1					1	3	3	6	2		2		1		1		3	2			9	5	14	12	8	20
Oedema of lungs			1										1	1	2																		
Pleurisy		4	2	6	3	2				1	1	1	7	13	20	3	2			1		1		1		2	1	9	5	14	16	7	23
Empyema	1			1									1		1																		
Hydrothorax			1		2						2	1	3																				
Pulmonary embolism	1										1		1																				
Abscess of lungs					1		1				2	1	3																				
Laryngitis (phthisis)																																		
	53	36	42	41	55	40	28	24	20	20	14	13	212	174	386	15	5	15	8	34	15	22	13	37	18	33	31	176	90	226	388	264	652
DISEASES OF THE DIGESTIVE SYSTEM.																																		
Hæmatemesis				1										1	1																		
Oesophagitis	1	4			1	1	3	4	7	4	12	1	24	14	38	2	2	3	1	2	1	3	1	3	1	3	1	20	7	27	44	21	65
Teething																																		
Inflammation of the throat																																		
Ulcerative sore throat																																		
Sloughing sore throat																																		
Tonsilitis																																		
Stricture of the œsophagus	1		1				2	3	2		1		7	3	10	3						2	1	2		1		9	3	12	17	5	22
Gastritis	3								1				4		4																		
Ulcer of the stomach			4		1	1	1	3	1	3			11	3	14	6	2	3	2	4	1	6	1	5	1	3	2	27	9	36	38	12	50
Gastro enteritis																																		
Dyspepsia	4	1	1	1	7	3	7	9	4	21	3	49	12	61	11	4	5	1	7	2	9	2	10	7	12	3	54	19	73	103	31	134		
Enteritis	8	5	1	2	1	1	3		5	1	7	4	25	13	38	6	3	3	1	4	3	8	2	5	2	5	2	46	18	64	71	32	103		
Dysentery	1		3		1		1		1		1		7		7																			
Obstruction of the bowels									1		4	2	6																					
Hemorrhage of the bowels			1		1		1	1	1		1		5	2	7																			
Intussusception of the bowels			1		1		1	3	2				8		8																			
Diarrhœa	13	12	6	3	12	3	5	4	10	6	9	1	53	31	86	9	5	7	3	7	4	12	4	26	12	31	4	92	32	124	147	63	210
Gallstones																																		
Rupture of the spleen																																		
Splenitis	1										1		2		2																			
Hernia	1				2				1		1		5	2	7	1		2				1		1		1		6	2	8	13	4	17
Hepatitis	2		2		3	1	2		3	6	3		18	4	22	3		1		1		2		2		1		9	4	13	27	8	35
Abscess of the liver	4	2	1		1		1	2			1		11	3	14	3		2				1		2		1		9	3	12	23	6	29
Cirrhosis of the liver	5		6		2	2	2			1			19	2	21	7												7		7	26	7	33
Atrophy of the liver							1						1		1																			
Waxy liver					1								1		1																			
Leucocythæmia																								1		1		2		2	1		1	
Jaundice											1		1		1	2		2		1								5		5	6		6	
Tuberculosis of mesenteric glands	1												1		1																			
Peritonitis	2		1	2			2		1	1	2		6	3	9	1	1	1		1		1		1		1		6	2	8	12	5	17
Ascites	2						1				1		4	1	5	2												2		2	6	1	7
Fatty degeneration of the liver											1		1		1																1		1
Obstruction of gall duct									1				1		1																			
Gangrenous stomatitis																																		
Ulceration of the bowels																																		
	48	24	33	8	32	20	30	20	53	18	64	11	262	101	363	55	18	36	15	45	20	53	21	89	31	75	20	353	123	476	615	226	841
DISEASES OF THE GENERATIVE AND URINARY ORGANS.																																		
Calculus																										1		1	1		1	1		1
Enlargement of prostate											2		2		2														1	1	2	11	7	18

TABLE SHOWING MORTALITY IN THE CITY OF NEW ORLEANS DURING THE YEAR 1883 BY MONTHS, ALSO THE RATE PER 1,000 POPULATION PER ANNUM.

MONTHS.	Mortality.			Rate Per 1,000 Population.		
	White.	Colored.	Total.	White.	Colored.	Total.
January	393	214	607	27.57	40.76	30.89
February	354	253	607	24.89	48.19	30.89
March	382	352	734	26.81	67.04	37.64
April	374	339	713	26.24	64 58	36.56
May	388	278	666	27.23	52.94	34.35
June	404	250	654	28.34	47.81	33.54
July	373	199	572	26.17	37.91	29.33
August	310	211	521	21.74	40.19	26.71
September	345	223	568	24.20	42.48	29.07
October	367	214	581	25.75	40.56	29.78
November	452	226	678	31.71	43.04	34.76
December	410	212	622	28.77	40.38	31.89
Total	4552	2971	7523	26.62	47.16	32.15

NOTE—The foregoing rate of mortality is based upon an estimated population for the city of New Orleans, proportioned to the ratio of increase between the years 1870 and 1880—White, 171,000; colored, 63,000; total, 234,000.

TABLE SHOWING MORTALITY FROM SOME OF THE PRINCIPAL DISEASES OCCURING IN THE CITY OF NEW ORLEANS DURING THE YEAR 1883.

Months.	Small-Pox.			Scarlet Fever			Measles.			Typhoid Fever.			Yellow Fever			Malarial Fevers.			Phthisis Pulmonalis.			Congestion of Brain.			Diphtheria.			Croup.		
	W.	C.	Total	W.	C.	Total	W.	C.	Total	W.	C.	Total	W.	C.	Total	W.	C.	Total	W.	C.	Total	W.	C.	Total	W.	C.	Total	W.	C.	Total
January	24	52	76	4	1	5	....	....	....	8	4	12	....	....	.....	15	3	18	45	12	57	4	3	7	5	...	5	3	.	3
February	48	83	131	2	1	3	....	....	....	4	1	5	....	....	.....	16	8	24	51	23	74	2	2	4	6	....	6	....	....	.....
March	72	149	221	5	1	6	1	....	1	1	2	3	....	....	.....	16	16	32	57	24	81	7	2	9	6	1	7	2	....	2
April	102	159	261	3	2	5	....	....	....	1	1	2	....	....	.....	11	9	20	32	31	63	6	5	11	3	1	4	2	....	2
May	80	95	175	2	....	2	2	....	2	2	....	2	....	....	.....	18	10	28	37	25	62	6	3	9	2	1	3	1	1	2
June	53	96	149	3	...	3	6	2	8	2	....	2	....	....	.....	31	14	45	38	20	58	5	1	6	3	....	3	....	....	.....
July	44	40	84	....	1	1	3	...	3	1	3	4	....	....	.....	28	20	48	40	26	66	9	2	11	6	1	7	1	.	1
August	31	36	67	5	....	5	1	....	1	1	....	1	....	....	.....	33	11	44	39	31	70	14	3	17	1	2	3	1	....	1
September	12	29	41	1	....	1	....	....	.....	2	1	3	....	....	.....	45	21	66	37	41	78	7	2	9	4	3	7	2	....	2
October	6	11	17	1	....	1	....	1	1	2	2	4	....	....	.....	46	19	65	37	36	73	9	1	10	3	3	6	2	....	2
November	15	15	30	5	...	5	....	....	....	4	1	5	1	....	1	39	11	50	47	44	91	8	1	9	6	1	7	1	1	2
December	6	8	14	1	1	2	1	1	2	5	3	8	....	....	.....	30	8	38	41	31	72	7	1	8	9	....	9	3	....	3
Total for the year	493	773	1266	32	7	39	14	4	18	33	18	51	1	...	1	328	150	478	501	344	845	84	26	110	54	13	67	18	2	20

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TABLE P–Continued.

Mortuary and Vital Statistics of New Orleans for the year 1883, from Original Records, under the Direction of Joseph Jones, M. D., President of the Board of Health of the State of Louisiana, 156 Washington, cor. Camp St., Fourth District, New Orleans, La., Jan., 1884.

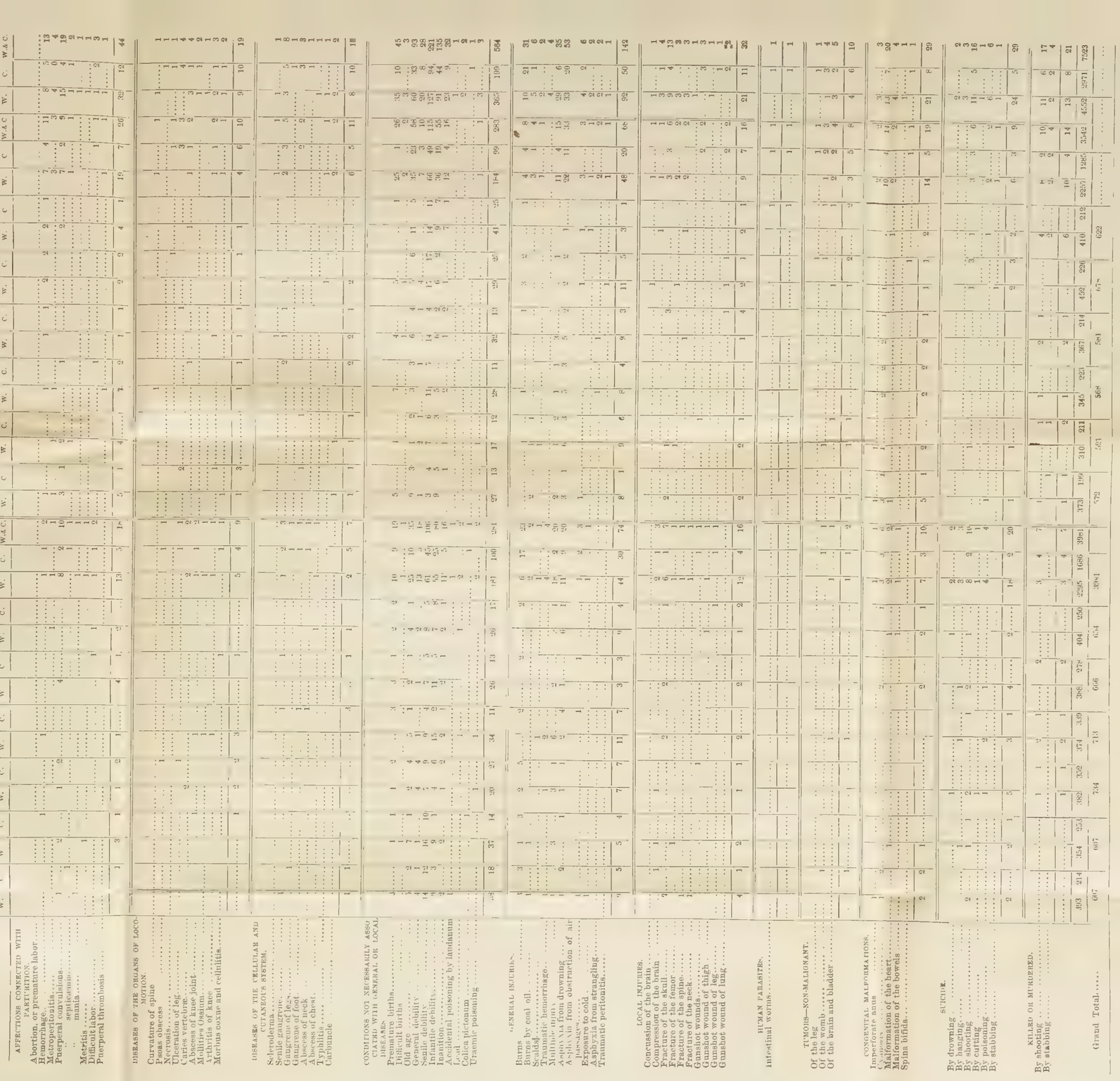

TABLE P–Continued

Mortuary and Vital Statistics of New Orleans for the year 1883, from Original Records, under the Direction of Joseph Jones, M. D., President of the Board of Health of the State of Louisiana, 156 Washington Street, corner of Camp Street, Fourth District.
New Orleans, Louisiana, January 1884.

MORTALITY OF NEW ORLEANS, LOUISIANA, DURING 1883, ACCORDING TO GENERAL CLASSES OF DISEASES, ARRANGED ACCORDING TO MONTHS AND RACES.

	January.		February.		March.		April.		May.		June.		Total 6 mos. of 1883.		Total.	July.		August.		September.		October.		November.		December.		Total last six mos. of 1883		Total.	Total 12 mos. of 1883.		Total.
	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.		W.	C.	W.	C.	W.	C.	W.	C	W.	C.	W.	C.	W.	C.		W.	C.	
General Diseases	133	84	143	132	181	205	179	220	191	164	187	151	1014	956	1970	161	111	152	103	139	109	138	94	179	94	123	70	892	581	1473	1906	1537	3443
Diseases of the nervous system	66	31	49	37	48	29	54	34	50	34	73	33	340	198	538	65	30	51	39	60	32	70	46	54	27	63	33	363	207	570	703	405	1108
Diseases of circulatory system	18	6	18	12	23	12	19	13	22	12	14	11	114	66	180	19	9	13	13	14	20	21	12	24	12	22	16	113	82	195	227	148	375
Diseases of the digestive system	48	24	33	8	32	20	30	20	55	18	64	11	262	101	363	55	18	36	15	45	20	53	21	89	31	75	20	353	125	478	615	226	841
Diseases of respiratory system	53	36	42	41	55	40	28	24	20	20	14	13	212	174	386	15	5	15	8	34	15	22	13	37	18	53	31	176	90	266	388	264	652
Diseases of the urinary and generative organs	17	4	19	2	6	6	7	5	9	9	9	7	67	33	100	6	5	6	10	10	5	13	3	9	4	13	11	57	38	95	124	71	195
Affection connected with parturition	2	1	3	1	1	2	1	..	4	1	2	..	13	5	18	5	1	4	..	3	2	1	1	2	2	4	1	19	7	26	32	12	44
Diseases of organs of locomotion	..	..	..	1	2	2	3	..	..	1	..	..	5	4	9	1	3	..	..	1	1	1	1	..	1	1	..	4	6	10	9	10	19
Diseases of the cellular and cutaneous system	1	1	..	..	..	..	..	3	..	1	1	..	2	5	7	1	1	1	1	..	2	2	1	2	..	..	..	6	5	11	8	10	18
Conditions not necessarily associated with local or general diseases	38	18	37	14	20	27	34	11	26	13	26	17	181	100	281	27	13	17	12	28	11	32	13	39	25	41	25	184	99	283	365	199	564
General Injuries	9	5	5	4	7	7	11	7	3	3	9	4	44	30	74	8	1	9	6	8	4	9	3	11	5	3	1	48	20	68	92	50	142
Local Injuries	4	1	2	..	1	1	2	..	2	..	1	2	12	4	16	2	..	2	1	..	..	1	4	2	1	2	1	9	7	16	21	11	32
Human Parasites	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	1	..	1	1
Tumors, non-malignant	..	1	..	..	..	..	1	..	..	..	..	..	1	1	2	1	..	1	1	..	..	..	..	1	2	..	2	3	5	8	4	6	10
Congenital malformations	2	2	1	..	..	..	..	..	2	..	2	1	7	3	10	5	1	2	..	2	2	2	1	1	1	2	..	14	5	19	21	8	29
Suicides	2	..	2	1	5	..	3	1	4	..	2	..	18	2	20	1	.	1	..	..	.	.	.	2	3	2	..	6	3	9	24	5	29
Killed or murdered	..	..	..	..	1	1	2	1	..	2	..	..	3	4	7	1	1	..	2	1	..	2	1	..	..	6	..	10	4	14	13	8	21
Total	393	214	354	253	382	352	374	339	388	278	404	250	2295	1686		373	199	310	211	345	223	367	214	452	226	410	212	2257	1285	3542	4552	2971	7523
	607		607		734		713		666		654		3981		3981	572		521		568		581		678		622							

MORTALITY FROM SOME OF THE PRINCIPAL DISEASES IN NEW ORLEANS DURING THE YEAR 1883, CLASSIFIED ACCORDING TO AGE AND COLOR.

DISEASES.	Under 1 year.		1 to 2 years.		2 to 5 years.		5 to 10 years.		10 to 15 years.		15 to 20 years.		20 to 30 years.		30 to 40 years.		40 to 50 years.		50 to 60 years.		60 to 70 years.		70 to 80 years.		80 to 90 years.		Above 90 yrs.		Total.		Grand Total, Whites and Col'd
	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	
Yellow Fever							1																						1		1
Malarial Fever	23	15	9	15	21	16	15	16	6	13	10	5	62	22	60	12	49	10	46	7	17	9	8	5	2	5	3		28	150	478
Typhoid Fever					1	1	2	5	4	1	7		8	6	8	2	3	2						1					33	18	51
Scarlet Fever			9	1	6	3	9	2	4		1				2	1			1										32	7	39
Measles	2		2	1	5		4	1				1	1	1															14	4	18
Dyptheria	2	3	6	1	30	6	11	1	1		1			2	1		1				1								54	13	67
Small Pox	43	44	27	46	67	121	75	127	30	50	41	72	81	155	53	77	43	41	21	24	8	9	3	3		2	1	2	493	773	1266
Diarrhœal Diseases	130	37	37	20	23	14	8	5	2	1	5	6	26	10	36	12	39	28	58	17	47	9	30	11	7	3	1	2	449	174	623
Congestion of Brain	16	1	10	3	5	2	4	2	4	1	3	1	5		9	4	7		6	7	10	4	4		1	1			84	26	110
Phthisis Pulmonalis	1	1		2	1	3	2	6	1	5	17	25	129	94	139	86	92	63	58	36	45	15	15	6	1	2			501	344	845
Pneumonia	31	26	22	14	10	11	10	3	2	8	6	8	18	20	18	12	30	13	20	12	20	10	14	6	3			1	204	146	350
Bright's Disease	1		2	2	1		1	1	1	1	1	2	16	10	17	5	22	8	18	12	17	7	5	6	1	2		2	104	58	162
Cancerous Diseases													1	1	5	5	18	12	24	5	21	4	8	4	2		1	1	80	32	112
Suicide											1		4		3	2	5	2	6	1	2		3						24	5	29
Sunstroke														1	2		2												4	1	5
Total	249	127	124	105	170	177	142	169	55	80	93	120	352	323	353	218	311	179	258	121	188	67	90	42	17	15	3	8	2405	1751	4156

MORTALITY FROM SOME OF THE PRINCIPAL DISEASES IN THE CITY OF NEW ORLEANS DURING THE YEAR 1883, CLASSIFIED ACCORDING TO NATIVITY.

NATIONALITIES.	Yellow Fever.	Malarial Fevers.	Typhoid Fever.	Scarlet Fever.	Measles.	Diptheria.	Small Pox.	Diarrhœal Diseases.	Congestion of Brain.	Phthisis Pulmonalis.	Pneumonia.	Bright's Disease.	Cancerous Diseases.	Suicides.	Sunstroke.
Austria--Hungary	....	3	2	....	....	....	....	1	....	3	....	....	1	....	1
Belgium	....	....	....	....	....	....	....	1	....	....	....	....	....	....	....
British America	....	7	....	....	....	....	....	2	....	....	1	....	....	....	....
Central America	....	....	....	....	....	....	3	....	....	....	....	....	....	....	....
China	....	2	....	....	....	....	....	2	....	2	1	....	....	....	....
Denmark	....	....	....	....	....	....	1	....	1	3	....	2	....	....	....
France	....	13	1	....	....	....	15	19	2	35	14	4	10	5	....
Germany	....	44	4	1	....	1	36	55	10	77	24	15	22	6	....
Great Britain (including Ireland)	....	59	3	....	....	....	6	60	10	88	27	22	18	1	....
Greece	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Holland	....	3	....	....	....	....	....	....	....	....	....	....	....	....	....
Italy	1	14	3	....	....	....	3	21	....	9	6	....	2	....	....
Louisiana	....	254	35	35	17	65	1011	359	69	443	217	68	23	9	1
Mexico	....	1	....	....	....	....	2	....	....	2	....	....	....	....	....
Norway and Sweden	....	3	....	....	....	....	....	2	....	2	2	1	....	....	....
Portugal	....	....	....	....	....	....	....	....	....	1	....	....	....	....	....
Russia	....	3	....	....	....	....	1	....	....	....	....	1	....	....	....
South America	....	....	....	....	....	....	....	....	....	....	....	....	....	1	....
Spain	....	6	....	....	....	....	2	4	2	8	4	1	2	....	....
Switzerland	....	1	....	....	....	....	1	1	....	2	1	1	2	....	....
United States (not Louisiana)	....	62	3	3	1	1	181	90	15	166	51	46	30	7	1
Turkey	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
West Indies	....	3	....	....	....	....	4	6	1	4	2	1	2	....	....
Not stated	....	....	....	....	....	....	....	....	....	....	....	....	....	....	2
Total	1	478	51	39	19	67	1266	623	110	845	350	162	112	29	5

Observations on the Climate and Health of Louisiana.

and more especially upon the relations of the climate of New Orleans to epidemic and endemic diseases.

By climate we mean everything which relates to the physics and chemistry of the air in which we live, which not only continually flows into our blood, but also alters the conditions of our existence, and the state of bodily health, by its variations of chemical constitution, of temperature, of moisture and of electrical and chemical forces.

The conditions of heat, rapidity of motion, weight and moisture in the atmosphere, are so important in their relations to agriculture, commerce and health, that institutions have been established all over the world for measuring the frequent variations.

The discovery of oxygen by Priestley, laid the foundation for the establishment upon a firm foundation of the chemistry of the earth's atmosphere; he believed that he had found the variations to be equal in amount to 6 per cent; Scheele found from 20 to 30 per cent, and others still greater variations; but Cavendish, who made 500 analysis, showed that the differences in the composition of the air of various localities were very small,and arrived at the conclusion that 20.833 per cent of oxygen is the mean amount, and that the composition is constant. Gay-Lussac and Humboldt after many experiments which gave from 20.9 to 21.2 per cent of oxygen, settled on a mean of 21.0; Gay-Lussac gave as a mean of the air from mountains and from Paris 21.49; DeSaussure examined the air at Chambeisy and found a mean of 21.05; Bertholet 21.05, Thom Thompson 21.0; Davy 21.0; Vogel on the Baltic 21.59; Hermbstadt on the Baltic 21.5; Dalton at Manchester from 20.7 to 21.15; Doyère found from 20.5 to 21.5; Regnault gave as the result of 100 analyses of the air of Paris, variations from 20.913 to 20.999, with a mean of 20.96 from Lyons from 20.918 to 20.966, from Berlin from 20.908 to 20.998, from Madrid 20.916 to 20.982, Geneva and Switzerland, 20.909 to 20.982, Toulon and Mediterranean 20.912 to 20.982, Atlantic ocean 20.918 to 20.965, Ecuador 20.960, Pichincha, higher than Mount Blanc, 20.949 to 20.981; mean of all the analyses of Regnault 20.949 to 20.988; Bunsen in his numerous analyses of the air of Heidelberg, found the maximum to be 20.970, lowest 20.040; mean 20.924. Dr. Robert Angus Smith, from a careful examination of the analyses of the preceding and other chemists, as well as from his own extended observations, regards the average composition of the atmosphere in 100 volumes to be: oxygen 20.96, nitrogen 79.00, carbonic acid 0.04.

Analyses of the air of impure places show deviations from the numbers found on analysing fresh air. Thus, according to Configliachi, the air of rice fields contains 20.08 per cent of oxygen, of crowded places 20.3; according to Regnault, air of Toulon Harbor 20.85, of Algiers 20.42 to 20.395 of Bengal Bay, over bad water, 20.387; according to Robert Angus Smith, in the middle of Manchester, 20.179 to 20.868; air from closets or midden behind laboratory 20.70; London, mean of air from various places, 20.857; Glasgow 20.889, marshy or confined places, Switzerland, 20.937 to 21.01.

It is evident from the preceding facts, that the variations in the amounts of oxygen in the atmosphere under various circumstances, of elevation, and crowding, are not sufficient to establish any connection between them and the origin and spread of contagious diseases.

With reference to the relations of the active state of oxygen *(ozone)*, to the origin and spread and arrest of epidemics; it must be admitted that:

1. The estimation of ozone, is in an unsatisfactory state, because other substances, besides ozone, act on the iodide of potassum, especially nitrous acid, which is formed in some quantity during electrical storms; the papers cannot be put under the same conditions from day to day; supposing that iodine is set free by ozone, a portion of it is at once changed by additional ozone into iodozone, which is extremely volatile at ordinary temperatures, and hence a portion of the iodine set free never acts on the starch; and finally, because the ozone may possibly act on the starch itself.

2. The substance giving the reaction of ozone is neither deficient in marshy districts, nor when ozone is conducted through marsh dew does it destroy the organic matter; and there are are no experimental proofs that it acts on the organic impurities of respiration.

3. There is no weight of evidence to prove that deficiency in ozone has assisted the spread of epidemics of any of the specific diseases, or that excess has checked them.

The facts, however, that the reaction with Schoonbein's or Moffat's papers is greater in pure than in impure air, at the seaside than in the interior, that ozone is often absent from hospital wards, though present in the air around them, that it is greatest when the barometer, the mean daily temperature, and the dew-point are all high, should lead to farther and more numerous experiments; but they do not warrant the assertion made by some writers, that the cessation of epidemics of cholera, malarious fevers, and even yellow fever, has been due to currents of air bringing ozone with them; neither do they sustain the assertion that the accumulation of malaria at night is due to the non-production of ozone by the suns's rays, and that the effects of stagnant air in increasing epidemics is due to the absence of ozone.

The effects of the variations of positive electricity on health, and on the origin, spread and intensity of diseases, are unknown; and beyond the fact that free electricty appears to be less during the prevalence of certain epidemics, as that of 1878, in New Orleans, all else is pure speculation.

No theory of the causation of disease has yet embraced the consideration of the neutral gas, nitrogen; but carbonic acid, sulphuretted hydrogen, carburetted and phosphuretted hydrogen, and various volatile substances which constitute odors and vapors, nitrogenized organic matter, organized and living matter, have been considered as active agents in the production of disease.

The variations of carbonic acid and of sulphuretted hydrogen are, without doubt, most marked in crowded cities and in mines, and whilst both these gases are evolved from putrifying organic substances in increased amounts during the heat of summer, there are no facts to show that such increment is in any manner connected with the development and spread of such a disease as yellow fever.

The effects of these gases are best studied in mines, in which when the quantity of oxygen falls under 13 per cent and is too small for the process of respiration, or when the carbonic acid amounts to 7 per cent, with several per cent of sulphuretted hydrogen and miasms of a peculiar kind, they communicate to the atmospheric air a property which is often very dangerous. As the venous blood possesses a greater affinity for the oxygen than the carbon of combustible substances, a man can replace the loss of oxygen by frequent breathing, and therefore can live when candles and mine lamps go out. As neither the combustible material nor the venous blood can remove all the oxygen from the air, but rather diminish it to 18

and at most to 12 per cent, it follows that atmospheric air, the oxygen of which is to a certain degree diminished, acts towards men and candles like pure nitrogen. In an atmosphere poor in oxygen there is felt, not so much as a consequence of the presence of nitrogen as the absence of oxygen, constriction of the chest, tickling of the eyes, fatigue, weakness and anxiety; the breathing becomes more heavy and frequent, and the laborer is compelled to make more exertion at work, whilst perspiration and thirst ensue. If the laborer be continually subjected to such agencies for considerable periods of time, there will be induced, in addition to the rapid breathing, paleness, anæmia, debility, hardening of the glands, herpetic eruptions, loss of power in the extremities, and early asthma. We exclude, therefore, from the consideration of the causation of yellow fever, the variations of the amounts of oxygen, ozone, electricity, nitrogen, carbonic acid, carburetted and phosphuretted hydrogen in the atmosphere; for such variations are more marked and frequent in localities in which yellow fever is unknown.

The organic, organized and living matters of the atmosphere, therefore, demand the first consideration; and in the second place, the moisture and temperature of the atmosphere; and in the third place, the force and direction of the winds, and the amount and intensity of the electrical actions; and in the fourth place, the variations in the chemical constitution of the atmosphere, and the effects, the variations of ozone and of the established and extraneous, or what may be termed adventitious and abnormal constitutuents of the atmosphere.

The thorough discussion of the preceding subjects, even if the proper data were at hand, would swell the present division into the magnitude of a volume; and we must delay to some future time the consideration of the minute history of the meteorological characters and differences of epidemic and non-epidemic years.

The great problem of interest is: can climatic conditions in New Orleans cause or engender, *de novo*, certain infectious diseases, as *yellow fever ?*

If they cannot, then the protection of this city or valley from yellow fever lies in a *rigid quarantine*, supplemented by *thorough disinfection and sanitation.*

CLIMATE AND HEALTH OF LOUISIANA.

ASTRONOMICAL POSITION.

Between latitudes 28° 55′ and 33°, north, and longitudes 11° 38′, and 17° 21′ west, from Washington; and 88° 40′, and 94° 23′, from Greenwich.

DIMENSIONS.

The extreme length of the State, east and west, is 290 miles; area, 41,255 square miles. The longest line that can be drawn in Louisiana is from the mouth of the Mississippi to the northwest angle in Sabine, 380 miles.

SURFACE.

There is not, perhaps, on earth a continuous tract of equal extent presenting a greater diversity than Louisiana. Within its limits are included all the varieties, from the most recent and still periodically inundated alluvium, to hills approaching the magnitude of mountains; every quality of soil, from the most productive to the most sterile, and from unwooded plains to dense forests.

All the southern part of this State is an alluvial tract of low champlain country, extending from Lake Borgne to Sabine river, and from the Gulf of Mexico to Baton Rouge and Red River—about 250 miles long, and from 70 to 140 wide. This extensive tract is intersected by numerous rivers,

bays, creeks and lakes, dividing the country into a great number of islands. A large extent of country in Louisiana is liable to be overflowed by the Mississippi. According to Mr. Darby, the accurate and learned and accomplished surveyor, the average width of overflown lands above Red River, from latitude 31° to 33° north, may be assumed at twenty miles, equal to 2770 square miles. Below latitude 31° to the efflux of the Lafourche, about eighty miles in extent, the inundation is about forty miles in width, equal to 3200 square miles.

All the country below the efflux of the Lafourche is liable to be inundated, equal to 2370 square miles. From this calculation, it appears that 8340 square miles are liable to be inundated by the overflowing of the Mississippi; and if to this be added 2550 square miles for the inundated lands on Red River, the whole surface of the State liable to inundation will amount to 10,890 square miles. Of this extent, however, not one-half is actually covered annually with water; and every year, by the extension of levees and by the deepening of the mouths of the river, the area of cultivated land is becoming greater, and that subject to overflow less.

The immediate banks of the Mississippi River and its tributary streams are seldom, and many of them never, inundated, and they afford strips of arable land from one mile to two miles wide, of unsurpassed fertility, producing the great sugar and rice crops of Louisiana. The water of the lakes, as well as that of the Mississippi River, moderate the intense heat of summer and the severe cold of winter, and the residences of the planters on the banks of the streams are noted for their elegance, comfort, thorough ventilation and healthful climate.

From its southern latitude, it might seem reasonable to expect in Louisiana a very warm climate, and this has been reckoned upon to a greater extent than experience justifies. The winters are in fact more severe, and the mean temperature lower, than in higher latitudes, by 2° on the Atlantic. In reality, as far as vegetation can decide the questien, the seasons may be considered milder at Charleston, South Carolina, latitude 32° 42′, than at New Orleans, in latitude 30°.

We will, however, consider this subject of the influence of the togographical and geographical situation of Louisiana on her climate more fully hereafter.

Col. S. H. Lockett, for many years the able and accomplished Professor of Engineering in the Louisiana State University, who traveled over all the parishes of this State in search of data for his excellent topographical map of Louisiana (various journeyings amounting to more than 4000 miles within the limits of the State), thus classifies the surface of Louisiana:

"Lands within the limits of Louisiana, including coast marshes, 40,700 square miles; inland water coast bays 2328 square miles; total, 43,028 square miles. There are two general divisions of the lands of the State, the hill and the level lands; hilly lands, 12,332,920 acres; level lands, 12,773,000 acres; total, 26,105,600. These lands may be classed as follows: Good uplands, 5,298,000 acres; pine hills, 5,497,600; bluff lands, 1,587,320; prairie region, 2,483,000; arable alluvial land, 3,615,00; wooded alluvial lands, 2,752,000; pine flats, 1,585,000; coast marsh, 3,338,000; inland water surface, 1,228,000; coast bays, 1,100,000. As it is situated at the mouth of the greatest river on the continent, and contains within its limits the delta of this river, intersected by numberless lesser rivers and bayous, and filled with lakes, most people conclude that Louisiana is, throughout its entire extent, a low, wet, swampy region. They imagine its surface to be a great plain of wonderful fertility, when at all arable, with an indefinable succession of deep jungles,

tangled swamps, marshes, lakes, sloughs, cane and cypress brakes. But these misconceptions will be speedily dissipated by a journey into the interior, and it will be discovered that few States of the Union possess a greater diversity of surface, soil, climate, scenery and products than Louisiana, and no State has a more varied and interesting population, or a more eventful history."

EFFECTS OF THE RIVERS, LAKES, BAYS, AND OF THE GULF OF MEXICO ON THE CLIMATE OF LOUISIANA.

As the melting of a given quantity of ice requires as much heat as would be needed to raise the temperature of a sixty-three times greater mass of water one degree of Reaumur; and as when boiling water assumes the form of vapor, there is required in this process and the formation of vapor of equal temperature, as much heat as would be required to raise the temperature of a 430 times greater mass of water one degree of Reaumur, it is evident that enormous quantities of heat must be absorbed at the base of the atmosphere in the process of the thawing of ice and the evaporation of water. When the water is reconverted from the higher to the lower form of aggregation, the heat so absorbed is again given out. And as the formation of clouds takes place principally in the higher parts of the atmosphere, the latter resembles in some degree a steam engine, having its condenser above. The decrease of temperature with increasing elevation is much lessened. At the same time, the clouds formed at a definite height intercept the sun's rays, and at such times the heat—which in clear weather is produced in far the largest amounts at the bottom of the atmosphere—is received instead in its higher portions.

The reverberation from the ground as a second source of atmospheric heat, depends on the character of the surface; and the formation of dew teaches us what small differences are influenced in this respect. In regard to the warming of the air by contact with the earth, it is to be observed that a liquid surface is continually renewed, inasmuch as every depression of temperature causes the water at the surface, which by cooling has become denser and heavier, to sink down and make way for the warm water which rises from below to replace it; and this goes on until the density of the fluid makes it the same throughout its entire depth.

It is thus that the depths of the sea are deprived of the temperature which they would have if they were as far beneath a liquid surface, because the process of evaporation, or the conversion of parts of the water into vapors, employs heat, which if the surface were land would be given directly by contact to the adjacent air.

The large masses of water in Louisiana, therefore, moderate the heat of summer and the cold of winter, and thus give to this State the advantages of an insular climate.

The climate of Louisiana resembles in many respects that of the Mississippi valley.

George Preston, in 1794, was the first who decidedly controverted the assumption that America was everywhere much colder than Europe under the same latitude. "It seems to us," he said, "as if there was some exaggeration in this sweeping assertion. The interior of North America, beyond the Alleghanys, enjoys a far milder climate than the east coast of the same latitude. The wild rice, which will not ripen on the south shore of Lake Superiór, grows abundantly and brings its seed to maturity above Lake Winnepeg, nearly five degrees further to the North. Hearne and Mackenzie in their journeys to the interior, found the country clothed with forest to latitude 68°, and forests do not extend further North than this in Europe."

In attempting to obtain any general results respecting the distribution of heat in the United States of North America, three regions should be distinguished: First, the regions of the Atlantic States, east of the Alleghanys; second, the Western States, in the wide basin between the Alleghanys and Rocky Mountains, watered by the Mississippi, the Ohio, the Arkansas and the Missouri; and third, the elevated plains between the Rocky Mountains and the coast range of New California, through which the Columbia, or Oregon river winds its course. Since the establishment by John C. Calhoun of uninterrupted observations of temperature made on a uniform plan, at the various military stations extending from the point of Florida and Thompson's Island (Key West), to the northern boundary of the United States, and embracing over forty degrees of latitude, we have obtained more correct climatic views than were generally held in the time of Jefferson, Barlow and Volney.

The great characteristic feature of North America is its vast interior valley, extending from the Gulf of Mexico to the Arctic Ocean, and presenting every variety of climate between the tropical and polar regions. This valley is cut off from the general influences of the Pacific Ocean on the West, by the Rocky Mountains, and from those of the Atlantic Ocean in the East, but in a less degree by the Alleghanys. It is traversed by a deep winding longitudinal depression forming the trough of the Mississippi for more than two thousand miles.

The hypsometrical character, or relation to the sea's level of the richly watered, fruitful and thickly inhabited basin of the Mississippi, was first explained by the labors of the French astronomer Nicollet.

The plain which encloses the valley of the Mississippi is identical with that of northern Canada, and forms part of one of the same depressed basins extending from the Gulf of Mexico to the Aretic Sea. Wherever the low land falls into undulations, and slight elevations, which still retain the French appellations of *coteaux des prairies*, *coteaux des bois*, in connected rows between the parallels of 47° and 48° north latitude, these rows and gentle undulations of ground separate the waters between Hudson's Bay and the Gulf of Mexico. Such a line of separation between the waters is formed, north of Lake Superior; Kichi Gummi, by the Missabay Heights, and further west by the elevations known as *Hauteurs des Terres*, in which are situated the true sources of the Mississippi, one of the largest rivers in n the world, and which were not discovered till the year 1832.

The highest of these chains of hills hardly attains an elevation of from 1500 to 1600 feet. From its month (the old French Balize) to St. Louis somewhat to the south of its confluence with the Missouri, the Mississippi has a fall of only 380 feet, notwithstanding that the itinerary distance between these two points exceeds 1280 miles. The surface of Lake Superior lies at an elevation of 618 feet, and as its depth in the neighborhood of the island of Magdalena is fully 790 feet, its bottom must be 171 feet below the surface of the ocean.

The broad valley of the Mississippi enjoys at its northern extremity, the warming influence of the Canadian lakes, and at the southwest of the Mexican Gulf stream.

These five lakes. (Lakes Superior, Michigan, Huron, Erie and Ontario), cover an area of 92,000 square miles. The climate is so much milder and more uniform in the vicinity of these lakes than at Niagara, for instance, (in 43° 15′ north lat.), the mean annual winter temperature is only half a degree below the freezing point, while at a distance from the lakes in 44°, 53′ north latitude at Fort Snelling, and near the confluence of the river St. Paul with the Mississippi, the mean winter temperature is 15.8°, Fahrenheit.

At this distance from the Canadian lakes, whose surface is from five to upwards of six hundred feet above the sea's level, whilst the bottoms of Lakes Michigan and Huron is five hundred feet below it. Recent observations have shown that the climate of that country possesses the actual continental character of colder summers and colder winters.

The waters which enter the Gulf of Mexico between Cape Catoche, of Yucatan, and Cape San Antonio de Cuba, force their way back into the open ocean north of the Straits of Bahama, after they have been agitated by a great rotatory movement between Vera Cruz, Tamiagua, the mouth of the Rio Bravo del Norte, and the Mississippi. Here they form a warm rapid current, known to mariners as the gulf stream, which deflects in a diagonal direction further and further from the shores of North America. The high temperature of the gulf stream, in all parts of its course, is one of its striking peculiarities. It is a current of warm water, so greatly above the average heat of the ocean, that the navigators may at once detect his entrance into it by the sudden rise of the thermometer.

The difference often amounts to 9, 12 and 15 degrees Fahrenheit, and sometimes to much more. Near Cape Hatteras, on the coast of North Carolina the thermometer shows 81 degrees in summer, which is from 10½ to 11½ degrees above the water of the ocean, in the same latitude immediately contiguous to these streams.

At Cuero, one of the Azores, its temperature is from 75½ to 77½ degrees, which is from 8 to 10 degrees above that of New Orleans. It is on the Mexican Gulf, which may be properly called a cauldron for heating water, that this high temperature is acquired, which is then in summer 4 degrees above that of the open ocean under the equator.

From these physical conditions, the following influences are exerted in forming the peculiar character of the climate of Louisiana, which forms the southern extremity of the Mississippi Valley on the Gulf of Mexico:

1. The atmosphere of Louisiana is loaded with moisture, and upon this condition, as well as its warm temperature and the abundant uniform distribution of rains in spring and summer, mainly depend its luxuriant forests and splendid crops of sugar-cane and cotton.

Whilst the rains which water the Atlantic slope are equally distributed, and those of the California coast are *periodic*, making a well-defined wet and dry season, those which water the Mississippi Valley are *unequally distributed*; those of spring and summer being greatly in excess. In winter, the mouths of the Mississippi and the region of Pensacola are in the area of greatest precipitation (18 inches) From this centre, the lines of equal precipitation on the west maintain a considerable parallelism; first, near northwest, along the Texas coast; then rapidly curving near northeast, then east; and, as they leave the continent, northeast. In autumn, the mouths of the Mississippi and the region of Pensacola are still within the area of greater precipitation. The lines of equal precipitation pursue a north-northeast direction.

In summer, the average rainfall at New Orleans is about 17.28 inches; in autumn, 9.62 inches; spring, 11.29; winter, 12.71.

The abundant supplies of rain, and their relations to the seasons and agriculture, will be most thoroughly and practically illustrated by the following tables and facts, in which we have connected the monthly and annual rainfall expressed in inches and fractions of an inch in New Orleans during a series of years, with the total mortality from yellow fever:

MONTHLY AND ANNUAL RAIN-FALL, WITH DEATHS FROM YELLOW FEVER, IN NEW ORLEANS, LA., FOR A SERIES OF YEARS. CONSOLIDATED BY JOSEPH JONES, M. D.

(Expressed in inches and fractions of an inch.)

YEARS.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total inches.	Deaths by Yellow fever
Mean of 6 years 1833 to 1838	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	57.85	
Mean of 3 years 1836 to 1838	4.66	2.25	2.59	6.21	2.95	6.10	6.38	5.72	5.60	1.37	3.18	2.87	49.88	
1839	8.10	3.40	2.19	2.10	2.02	3.11	9.86	4.80	.12	2.40	3.92	4.40	46.42	809
1840	.11	2.01	1.09	3 10	4.80	7.10	5 60	3 10	1.80	7.80	5.55	2.22	44.28	3
1841	19.50	5.10	6.90	5.10	1.70	3.10	.89	3.41	2 87	2.41	.11	9.44	60 53	1325
1842	4.21	3.51	2.71	5.20	1.12	1.13	4.52	7.40	4.80	1.50	3.25	1.70	41.05	211
1843	4 00	3.80	5.51	2.67	.45	14.57	6.33	5.11	5 51	3.49	1.93	6.02	59.19	18?
1844	4.41	.73	3.90	.53	3.16	2.75	8.80	5.21	1.08	2.18	7.78	1.35	38.97	148
1845	6.24	1.19	5.16	1.99	8.06	3.20	1.88	4 53	4.30	6.26	4.62	6.20	53 58	2
1846	9.20	6.66	7.88	10 70	9 37	7.98	8.86	6.90	6.32	1.14	1.56	1 55	78 12	160
1847	7.71	3.77	3.40	4 63	4.80	3.43	5.06	6.81	2 83	75	2.59	7.73	53.51	2306
1848	5.42	1.28	1.97	3.92	4.75	9.36	7.79	8.37	.80	2.31	8.83	1.86	56.66	808
1849	3.55	2.45	2 83	2.43	8.01	3.79	11.09	4.85	4.01	6.88	4.48	2.52	56.89	760
1850	7.40	4.53	2.27	4.10	6.20	8.92	6 31	10.05	1.85	.96	1.58	3.46	58 53	107
1851	3.82	3.18	1 20	3 49	2.93	2.21	2.13	10.46	3.85	3.70	9 00	2.69	48.66	17
1852	.80	1.45	4.24	5.25	7.23	1.64	7.44	1.75	1.16	2 83	7.00	5.30	86.09	456
1853	3.20	4.20	7.38	1.88	2.80	1.86	11.71	7.01	5 04	5 17	7.03	4.57	61.85	7849
1854	1 89	9.84	4.18	3.81	6.15	4.08	2 94	3.48	1.92	4.84	1.55	1.16	52.75	2425
1855	.86	2.06	.82	2 00	1.77	1.75	7.24	4.12	4 36	2.10	5.59	8.23	41.70	3670
1856	8.90	3.68	3.73	2 85	2.53	5.79	8.63	16.12	3.20	2.29	4.65	4.75	67.12	74
1857	2 68	1.97	2.86	1.73	7.33	2 90	5.86	4.64	2.55	5.01	3.05	5.10	45.68	190
1858	3.71	4.30	4.71	2.26	3.45	4.89	7.72	7.35	3 67	4 13	3.20	3.42	52.81	4845
1859	6.40	3.77	7 84	3.99	1.94	7.12	.93	6.17	1.19	2.17	2.79	5.09	49 40	91
1860	.64	8.61	.76	2.42	1.26	5.07	1.50	4.50	1.80	5.66	4.28	2.74	39.24	15
1861	.....	.....	.....	7.58	.01	4.41	3.62	8.71	6 14	3.95	25	.76	35.43	.....
1862	3 79	2.76	2.83	4.10	.65	.58	4.54	2.15	4.68	1.03	.36	1.59	29.06	2
1863	2.11	3.56	3 73	.31	3.02	2.62	3.30	4.44	.174	1.67	.26	4.12	30.88	2
1864	3.42	.30	3.05	.98	.68	2.86	1.91	7.98	2.15	2.22	.77	.46	26.78	6
1865	3.97	3.94	5.30	.24	....	....	....	....	.....	.....	.....	.....	...	1
1869	.....	....	13.90	4.47	1.10	9.88	4.64	8.73	8.19	5.09	5.21	3 13	64.34	3
1870	9 46	3.61	2.85	9.22	4.41	4.09	6.08	11.58	1.64	1.85	5.15	9.52	69.46	587
1871	13.52	1.29	6.11	2.75	5.72	9.96	6.43	8.63	6.88	15.65	9.04	2.14	88.12	54
1872	5.22	5.91	9.73	6.73	3.97	5.78	7.03	3.95	2.36	3.38	9.06	5.69	68.81	39
1873	5.61	2.20	5.49	1.73	21 50	8.58	6.75	10.82	4.46	1 80	7.35	1.87	78 17	226
1874	2.30	3.70	7.31	18.44	.04	11 97	17.37	5.92	5.08	.....	1.76	3.57	77.46	11
1875	9.17	16.22	13.73	10.44	3.19	6 22	8.19	11.32	8.54	2.26	6 86	5 72	101.86	61
1876	5.47	9.33	11.65	8.20	8.54	7.19	5.19	5.55	0.39	10	2.97	8.29	72 87	42
1877	8.20	.85	5.31	4 51	1.14	2.30	7.07	3.27	16.29	9.62	6.20	5.95	70.71	1
1878	5.36	3.50	4.63	1.51	6.14	7.12	5.26	4.90	2.67	5.07	7 78	8.59	62.53	4046
1879	2.34	2.13	1.36	9.56	4.63	2.96	7.03	10 44	2.67	1.36	4.29	2.88	51.67	19
1880	1.02	4.62	6.66	6.88	6.58	6.43	11.22	4 60	7.48	1 88	6.04	6.45	69 86	2
1881	11.16	5.80	2.75	3.92	3.20	2.84	6.97	4.21	4.47	4.84	7.24	6.62	64.02	.....
1882	4.54	4.04	0.92	4.83	6.83	2.71	3.69	9 47	1.59	2.16	1.98	4.27	47.03	4
1883	10.63	1.56	5.01	14.21	5.41	12.05	3.31	4.12	0.25	3.43	6.27	3.47	69.72	1
Avr'ge of 42 y'rs 1839 to 1883	5 49	3.91	4.84	4.68	4.35	5.26	6.19	6.53	3.90	3.58	4.46	4.31	56.86	.....

A careful examination of the preceding table establishes no absolute relationship between the amount of the rain-fall and the prevalence and fatality of yellow fever. Thus yellow fever has been absent in some comparatively dry years and has been present in others; and this disease has prevailed in some wet years and been absent in others.

The rain-fall has been greater during the past two years 1880 and 1881, when yellow fever has been absent, than during 1841, when 1325 deaths were occasioned by yellow fever; 1847, 2306; 1848, 808; 1849, 760; 1853, 7849; 1854, 2425; 1855, 2670; 1858, 4845; 1878, 4046 deaths from yellow fever. On the other hand, the rain-fall and deaths from yellow fever, during the years yielding the highest rain-fall were as follows: 1846, rain-fall 78.12, deaths from yellow fever, 160; 1856, rain-fall 67.12, deaths from yellow fever 74; 1870, rain-fall 69.46, deaths from yellow fever 587; 1871, rain-fall 88.12, deaths from yellow fever 54; 1872, rain-fall 68.81, deaths from yellow fever 39; 1873, rain-fall 78.17, deaths from yellow fever 226; 1874, rain-fall 77.46.

deaths from yellow fever 11; 1875, rain-fall 101.86, with deaths from yellow fever 61; 1876, rain-fall 72.87, deaths from yellow fever 42; 1877, rain-fall 70.71 inches, deaths from yellow fever 1.

From the preceding table we gather as a general result that whilst during the past fifty years there has been a gradual increase in the rain-fall, there has also been a marked decrease in the number and fatality of epidemics of yellow fever.

The annual rain-fall in New Orleans, during the period embraced in the table, embracing a period of forty years, may, in round numbers, be regarded as ranging from 26.78 to 101.86; average 56.79 inches.

The general mean of the months may be stated thus: January 5.39; February 3.97; March 4.93; April 4.44; May 4.26; June 5.16; July 6.32; August 6.52; September 4.05; October 3.62; November 4.48; December 4.33 inches. If an average of a series of years be selected, it will be found that the heaviest rain-fall occurs in the summer and the least in the autumn. Thus if we select the statistics of the U. S. Barracks, for a period of fifteen years, 1839-1853 inclusive, the rain-fall in inches were as follows: Spring, 11.29; summer, 17.28; autumn, 9.62; winter, 12.71; year, 50.99. The extreme quantities of rain in New Orleans, of a period of 17 years, according to the U. S. Military Register, and the observations of Dr. Barton, were: January, max. 10.5, min. 0,11; February, max. 9.84; min. 0.73; March, max. 7.88, min. 0.90; April, max. 10.70; min. 0.53; May, max. 8.06; min. 0.45; June, max. 14.07, min. 1.31; July, max. 14.74, min. 0.89; August, max. 8.39, min. 1.37; September, max. 8.92, min. 0.63; October, max. 6.45, min. 0.75; November, max. 8.83, min. 0.11; December, max. 9.44, min. 0.80; maximum for year, 62.64 (1853); minimum, 39.96 inches (1852).

The rain-fall of 1841, when yellow fever destroyed a large number of citizens, was large, 60.53; it was also much above the average amount in 1847 and 1848, but it reached 67.12 inches in 1856, when yellow fever did not prevail as an epidemic. It is worthy of note that during the entire period embraced in the table, there is not a single month in any year without more or less rain-fall.

At Fort Pike, Louisiana, latitude 31.10 N.; longitude 89.88; altitude 10 feet; meteorological observations conducted during four years, 1843-1846 inclusive, gave the rain-fall as follows in inches: January, 5.62; February, 2.41; March, 7.13; April, 4.98; May, 4.59; June, 10.49; July, 8.46; August, 4.66; September, 8.43; October, 3.72; November, 6.81; December 4.62; spring, 16.70; summer, 23.61; autumn, 18.96; winter, 12.65; year 71.92 inches.

Observations at Baton Rouge, north latitude 30° 26′, longitude 91° 18′ altitude 41 feet, conducted during twelve years (1843-1854 inclusive), gave the following average rainfall in inches: January, 5.26; February, 4.91; March, 4.68; April, 5.22; May, 5.18; June, 5.52; July, 7.42; August, 6.20; September, 3.91; October, 2.67; November, 5.90; December, 5.23; spring, 15.08; summer, 19.14; autumn, 12.48; winter, 15.40; year, 62.10 inches.

Similar observations at Port Jesup, Louisiana, north latitude 31° 33′, longitude 93° 31′ altitude 80 feet, continued during ten years (1836-1845), gave the following mean results: January, 4.70; February, 2.76; March, 5.02; April, 4.86; May, 3.80; June, 4.61; July, 3.36; August, 2.97; September, 3.02; October, 3.80; November, 2.92; December, 4.03; spring, 13.68; summer, 10.94; autumn, 9.74; winter, 11.49; year, 45 85.

The preceding observations upon the monthly and annual rainfall in different portions of Louisiana, establish the important fact that the rains are so distributed as to prevent disastrous drouths, and also to promote in the best possible manner the cultivation of the soil, and the rearing,

watering and support of vast herds of cattle. In fact, the entomology of several of the regions of Louisiana indicate its adaptation to the raising of large herds of cattle. Thus, the word Ouachita is composed of two Choctaw words, namely, ouac, a buffalo, a cow, horned cattle in general; and chito, large (pronounced tchito, bearing lightly on the initial *t*). It means the country of large buffaloes, numerous herds of these animals having formerly covered the prairies of Ouachita. All the names, now translated into French, of Riviere aux Bœufs, Bayou Bœuf, have the same origin, from the numerous herds of buffalo which previous to the introduction of the civilized races of Europe, formed the principal support of the Indian tribes.

2. The climate of Louisiana is rendered moist and suited to the culture of the sugar cane, by the winds from the Gulf of Mexico.

Owing to several causes, as the one just mentioned, the absence of protracted drouths, the abundant rain-fall, and the presence of large bodies of water in the city and lakes surrounding New Orleans, the climate, as well as that of the gulf coast, comprising a large area in the Southern States, is very humid, containing a large quantity of vapor, though not in the sensible form of clouds or fogs. This condition of the atmosphere, combined with the tropical heat of summer, favors the rapid development of animal and vegetable organisms.

Dr. Barton has accurately observed the humidity at New Orleans for many years, and the following results for 1853, when yellow fever prevailed in its most destructive form, will show nearly the general average then :

Months.	New Orleans.	New Orleans.	St. Louis.	Greenwich.
	Humidity.	Weight Vapor per cubic foot, grains.	Humidity.	Humidity.
January	88	3.85	68	85
February	84	4.58	67	85
March	83	5.38	61	80
April	83	6.80	46	80
May	84	7.60	66	75
June	81	9.14	69	73
July	82	8 80	70	..
August	87	9.74	78	77
September	85	8.57	80	74
October	80	6.05	63	83
November	84	6.06	..	86
December	82	4.01	68	84
Year	86	6.72	67	80

This shows a high measure of humidity for the whole year at New Orleans, and an excess of vapor in the air in the warm months.

That portion of the continent which embraces the United States, is situated in the zone of southwest winds, and these winds are found to prevail with regularity on the Atlantic, north of the calms of Cancer; but in the region of the Caribbean Sea and the Gulf of Mexico, there are abnormal conditions which present a marked deviation from the fixedness and uniformity observable in the winds of the mid-Atlantic and the north of Africa. Both southerly and northerly winds blow with violence across the parallel 30° (in the belt of the calms of Cancer), which, away from the American continent, acts as a great wall between the southwest and northwest winds.

In the summer season, the northeast trades, hot and moist from the equatorial zone, as they enter the Caribbean Sea, are deflected by the lofty chains of the Andes which girts the coast, and pass into the Gulf of Mexico, where they become inland breezes on the coast of Texas; and as they penetrate the interior, they are gradually deflected east, until they reach about latitude 39°, where they assume the direction of the great southwest aerial current. It is this deviation from the regular flow which gives to the Mississippi Valley its moist tropical summer climate.

Volney was the first to point out this deflection:

"Mariners relate that from Cape Vela, a projecting point of the Gulf of Maracaibo, the winds vary, and swerve into a course parallel to the stream, which flows into the Caribbean Sea, and entering the Bay of Honduras it varies a little and blows from the southeast. The bank of sand called Yucatan is interposed between the two bays, but is so low and level that it is no obstacle to its progress. Bernard de Orto, who has published some careful information on the winds of Vera Cruz, tells us that southeast winds prevail in these parts."

He further adds that the trade-winds are deflected by the table-lands of Mexico, and become the south winds of the Mississippi Valley. Redfield admits that it is to this current that the Mississippi Valley owes its fertility, and Russell, in his work on "North America: Its Agriculture and Climate," also sustains the same views, and calls attention to the remarkable generalizations of Volney, made at a time when no wind or rain charts were available.

Blodget remarks that the southeast winds prevail almost exclusive from April to October, or during the whole period of warm months, when the Western plains receive their excess of moisture. Humphreys and Abbot, in their "Physics and Hydraulics of the Mississippi River," remark the great resemblance between the winds of Key West and those near the mouths of the Mississippi. "Both have, in part, the characteristics of the northeast trade-winds. Blowing chiefly between the northeast and southeast, they veer towards the south as summer approaches, and continue to blow from that quarter and from the east during the summer and early part of the autumn; changing towards the north upon the approach of winter, they blow principally from that direction during the winter months." This course conforms, too, to the track usually pursued by the great hurricanes which, originating in the West Indies, first blow southeast, then cease abruptly, and sweep the Atlantic coast in a northeast direction.

3. The presence of large masses of water within and around Louisiana, as well as the mass of cold water introduced from the northern regions, or from the Rocky Mountains, into the heart of the continent by the Mississippi River, render the climate of this State less liable to extremes of heat than positions far north and in the interior portion of the Mississippi Valley.

Thus New Orleans, in the summer and fall months, is less liable to great and sudden elevation of temperature than Nashville, Tenn., or St. Louis, Mo.

CLIMATE OF NEW ORLEANS—ITS RELATIONS TO MALARIAL AND YELLOW FEVERS—MONTHLY AND ANNUAL ELEVATIONS AND DEPRESSIONS, AND MEAN OF TEMPERTURES—SUMMARY OF METEOROLOGICAL OBSERVATIONS.

I have consolidated the following tables from the most reliable sources, and they constitute valuable records for present and future study of epidemics in New Orleans and the Mississippi Valley:

MONTHLY MEAN TEMPERATURES—MEAN TEMPERATURES: SPRING, SUMMER, AUTUMN AND WINTER—MEAN ANNUAL TEMPERATURE IN NEW ORLEANS, LA., LATITUDE 29° 57′, LONGITUDE 90° 50′, ALTITUDE 10 FEET. CONSOLIDATED BY JOSEPH JONES, M. D.

	Year.	January.	February.	March	April.	May.	June.	July.	August.	September.	October.	November.	December.	Spring.	Summer.	Autumn.	Winter.	Year.
	1820	.....	.....	.....	73.00	79.00	86.00	82.00	85.00	81.00	65.00	57.00	60.00	.....	84.33	67.66	.....	.....
	1822	62.90	51.60	64.10	70.80	72.20	84.30	81.50	82.80	79.50	71.40	67 30	57.70	68 86	82.86	72.73	54.06	70.10
	1825	53.26	53.33	67.80	66.90	81.82	88.54	82 95	84.33	80.17	65.70	62.60	44 00	72.17	85.27	69.49	50.21	68.90
	1826	53 20	63.27	70.71	72.54	77.61	83.24	84.16	85.15	86.64	72.97	65.55	58.28	78.62	84.18	73.05	58.25	72.27
	1827	56 74	66.85	65.43	1.31	73.03	74 00	82.65	84.50	82·40	80.60	67.57	62.04	62.00	70.11	83.15	71.91	61.86	72 30
	1828	64.58	66.01	65.34	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	1832	.....	.....	.....	60.50	74.25	78.64	82.75	82.52	77.65	..	..	..	..	81.30	.....	.....	.. ..
	1833	55 37	60.35	60.71	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	1834	....	....	....	.....	.....	.....	.....	.....	.....	70.74	68.08	59.10	.....	.....	.....	.....	.....
	1835	51.60	49.60	60 40	68.00	79.50	81.80	81.10	83.00	76.60	69 90	63.70	63 90	69.30	81.63	66.73	51.70	68 30
	1838	56.61	52 38	64 10	67.19	68 65	82.07	82.47	82.11	77 85	68.39	57.07	52.85	66.65	82.22	87.60	58.95	67.61
	1839	56 22	54.48	60.99	70.98	77.33	83.03	82.48	82.25	79.22	75.35	57.40	48 09	69.76	82.59	70 67	52.93	68.99
	1840	55.09	61.77	99.15	70.38	77.30	79.97	85.56	84.96	68.91	74 33	65.66	56.13	73.61	83.50	72.96	57.66	71.96
	1841	55.46	55.61	64.81	71 62	76.17	84.35	87.02	83.86	78.58	69 17	61.83	55.40	70.87	85.08	70 16	55.49	70.40
	1842	56.96	58 50	71 35	69.80	74 96	80.56	80.25	79 58	78 63	69 03	59 06	53 29	72 03	80 13	68 91	55.25	69 33
	1843	55 43	54.16	62.03	70.85	75.79	78.50	81.40	80.20	80.60	68 20	68 18	55 77	62.22	80 08	69 03	56.12	67.61
	1844	58.54	59.28	68.55	72 62	78.46	79.80	84 30	82.00	79.10	68 20	65.02	57.18	71 51	81.51	70 75	58.33	70.52
	1845	57.25	59.91	92 11	72.75	73.20	79.46	.. ..	.. ..	.. ..	.. ..	.. ..	.. ..	69.85	.. 3	.....	.....	.....
	1846	.....	.....	61 50	67.19	75.28	80.14	82.73	..	..	68 82	63 94	62.14	67.98	.....	.....	.....	.....
	1847	55.85	57 30	61.90	72 48	76.56	78.75	81.82	82.68	77.85	71 16	69.37	58.25	69.98	81.08	71.13	55.13	69.33
	1848	58.18	61.68	64 38	68.39	76.47	82.86	80.42	81.25	79.51	73.67	59.58	59.43	69.73	81.51	79.92	59.76	70.48
	1849	60.89	56.08	70.17	71.00	76.82	81.08	81.10	85.10	81.00	69.80	66.00	61.90	72.63	82.42	72.23	59.62	71.70
	1850	59.31	55 32	63.89	68.13	2.26	76.12	82.54	86.10	83.40	66.41	60.58	55.49	68.09	81.58	70.13	56 71	79.10
	1851	54.43	59.79	61.64	68.24	75.80	83.10	85.20	84.00	80.50	69.67	60.89	55.21	68.23	84.10	70.35	56.48	71.50
	1852	46 59	52.10	63.96	67.27	78.10	80.80	84.00	83.20	80.90	74.25	61.37	61.98	67.77	82.66	72.17	56.89	70.40
	1853	50.65	56.51	62.70	70 42	74.33	80.23	82.60	84.30	80.10	65.80	66.90	51.10	69.15	82.37	70.93	52.78	67.79
	1854	53 40	56 50	66.20	64.60	75.10	80.60	80.10	81.50	78.10	69.90	57.10	52.20	58.63	80.73	68.36	54.03	68.00
	1855	54.80	51.85	59.80	70.33	79.16	81.88	82.78	84.80	82.14	67.10	66.68	56.66	69.76	82.38	71.97	54.43	67.90
	1856	55 27	58.35	64.15	70.06	75.62	81.11	82.79	82.87	78.94	71.75	62.44	55.98	69.94	82.26	70.71	56.53	69.86
	1857	50.58	64.98	62.35	64.96	74.16	80.09	81.80	81.80	80.15	69.77	61.10	58.13	67.15	81.23	70.34	57.89	69.15
	1858	59.96	56 23	64.41	71.50	77.05	81.07	83.57	83.93	79.96	74.96	54 73	61.47	70.99	82.86	69.88	59.22	70.73
	1859	53.91	63.40	66.48	70.43	79.10	82.11	83.35	82.50	80.43	70.74	65.67	53.65	72.01	82.97	72.28	57.02	71.07
	1860	56.99	59.51	64.97	76.04	80.03	86.46	88.66	85.37	82.99	72.13	61.55	55.31	73.68	86.83	72.22	53.97	72.50
	1873	49.88	60.12	61.37	67 95	75.19	81 66	83.57	82.28	79.56	68.21	61.46	56.92	68.17	82.50	69.74	55.64	69.14
	1874	56.71	59.59	67.81	66.22	76.91	82.62	86.33	85.02	80.41	70.94	64.10	59.48	70.37	83.32	71.65	58.58	70.99
	1875	53.89	55.23	64.10	65.82	77.42	80.89	83.09	80.14	77.21	68.15	66.44	62.62	69.11	81.34	70.60	57.24	69.57
	1877	53.08	55 93	60.64	67.56	73.53	78.13	81.71	83.29	78.44	70.49	68.41	56.77	67.24	81.04	69.11	56.26	68.16
	1878	51.08	55.50	66.36	71.41	75.54	81.95	83.83	83.59	78.75	71.42	59 46	50.85	71.10	83.12	69.87	52.49	69.14
Mean of 38 Years.	1820 to 1878	56 28	58.03	64.27	69.41	75.00	81.35	83.21	83.14	79.64	70.27	62.30	56.43	69.56	82.53	70.75	56.91	69.51
	1876	61.15	60.00	60.42	69.66	72.20	81.60	80.85	79.51	75 30	64.13	55.90	45.80	60.52	74.48	78.75	55.27	67.21
	1879	52.9	55.40	64.30	67.00	74.80	79.00	81.80	79.30	77.20	71.50	64.10	59.50	57.53	70.60	79.43	65.03	68.15
	1880	63.00	59.08	65.50	71.20	75.50	80.30	82.60	81.50	77.00	68.00	56.00	53.10	62.52	75.67	80.37	59.03	69.05
	1881	50.40	56.30	59.90	67.20	77.00	83.00	84.40	82.80	80 10	75 20	61.27	59.20	55.53	75.73	82.43	65.20	69.72
Mean of 4 Years.	1876 to 1881	56.86	57.69	62.53	68.76	74.84	80.97	82.41	80.77	74.40	69.71	59.30	53.52	59.02	74.12	80.19	61.13	68.53
Mean of 42 Years.	1820 to 1881	56.30	58.02	64.33	69.40	75.00	81.34	83.23	83.06	79 58	70.25	62.20	55.43	69.28	82.29	71.00	57.04	69.48
	1882	67.70	62.50	67.90	72.50	74.40	81.20	80.50	80.00	77.60	73.30	62.80	54.00	71.60	80.60	71.20	61.47	70.79
	1883	56.54	62.59	61.89	71.16	74.23	81.26	83.69	83.17	79.20	75.32	63.52	60.28	69.09	82.61	72.68	57.71	71.17
Mean of 44 Years.	1820 to 1883	56.45	58.22	64.35	69.51	74.97	81.33	83.18	82.99	79.50	76.43	62.24	55.50	67.05	82.28	71.04	57.16	69.54

The preceding record has been constructed from the most reliable data extant, with reference to the climatology of New Orleans, namely: the meteorological records of the Military Post of New Orleans, extending over a period of twenty years, 1825-1853; the statistics published by Dr. Barton, embracing a period of nineteen years, extending from 1833 to 1853, and the manuscript of D. T. Lillie, Esq., and from reports of the Board of Health, and the records of the United States Signal Service.

From the preceding record of forty-two years, extending (with some interruptions) from 1820 to 1881 inclusive, the mean annual temperature of New Orleans is 69.48°. According to the meteorological records of the Military Post of New Orleans, extending over a period of twenty-five years, the mean annual temperature is given a fraction higher, namely, 69.9°; whilst, according to Dr. Barton, it is much less, or 67.6°.

The statistics which I have presented in the preceding table must be regarded as the fullest and most accurate expression of the temperature of New Orleans, and we must accept the mean annual temperature as 69.48°, with a range during the period specified of 72.50° maximum to 67.21° minimum annual temperature. The mean annual temperature of New Orleans is lower than that of Havana, Cuba, 75.9°; of Matanzas, Cuba, 78.3°; Ubajay, Cuba, 73.4°; of Nassau, Bahamas, 78.7°; of Rio Janeiro, South America, 73.7°; of Vera Cruz, Mexico, 77 to 79.8°; of Kingston, Jamaica, 78.7. The isothermal line of mean annual temperature of New Orleans passes through the north of Africa, through Morocco and Barbary, skirting the northern boundary of the Great Desert of Sahara, and crossing Egypt in a line with the Isthmus of Suez, and in the latitude of Alexandria, and passes on through the northern portion of Arabia, the middle of Persia, and Afghanistan, the north of India and the south of China. By its climatic relations, and especially by its mean annual temperature, New Orleans is connected with those portions of Africa and Asia from whence have sprung in past ages some of the greatest plagues which have desolated the human race. The isothermal 70°, for the year, which is very nearly that of New Orleans, is nearly on the parallel of 30°—rising above it at the Gulf of California, and falling below in the interior and in Texas, it follows the northern coast of the Gulf of Mexico, and crosses the Atlantic and Africa nearly in a straight line. It bends north at the head of the Red Sea, and across the desert until it strikes the Himalayas, from which point it turns southward and is below the Tropic of Cancer. Off the west coast of California it falls nearly as low, its general course being in a right line along the thirtieth parallel, from which it is abruptly turned southward in approaching Canton from the west and in leaving the California coast. The last curvature is due to the now well-known masses of cold water off that coast, and at the east of Asia it is apparently a mere continental effect, which would have been felt here if the continent had occupied the place of the Gulf of Mexico.

It is remarkable that the average position of this line is further north in the New than in the Old World.

The average temperature of the spring in New Orleans is 69.58°, and very nearly 12½° below that of the winter, 57.04°. The average spring and winter temperatures of those places in which yellow fever is said by the contagionists and quarantinists to be indigenous are as follows: Havana, Cuba, spring 75.7°, winter 68.4°; Kingston, Jamaica, spring 78.1, winter 76.1; Matanzas, Cuba, spring 78.9°, winter 73.4°; Nassau, spring 77.7°, winter 70.7 Rio Janeiro, spring 74.7°, winter 79.1°; Vera Cruz, Mexico, spring 77.8-78°; winter 77-79.8°. The mean summer temperature of New Orleans is 82.53°, of Havana 84.2, of Vera Cruz 81.5°. The mean autumnal temperature of New Orleans is 69.48°, of Havana 75.9°, of Vera Cruz 77.0--79.8°.

The most marked difference between the climate of New Orleans, and that of Havana, Cuba, is that the winter is colder by 11° F., and the spring colder by 6° F., in the former. The average temperature of the summer in New Orleans is 1° higher than that of Vera Cruz, and 1.7° cooler than that of Havana: the average autumnal temperature of New Orleans is

4.8° lower than that of Havana, and between 7° and 8° lower than that of Vera Cruz. It is evident, therefore, from these results, that the differences of climate between New Orleans and Havana are not so great as to warrant the dogmatic and oft-repeated assertion that yellow fever cannot originate *de novo* in New Orleans; neither do they sustain the lucubrations about the so-called hibernation of the yellow fever germ.

If the curve of the monthly temperature of New Orleans be projected upon a chart, it will be found to rise in January from a mean temperature of 56.30° to 58.02° in February, 64.33 in March, 69.40° in April, 75° in May, 81.34° in June, 83.23° in July, and 83.06° in August; the mean temperature of June and July then descends to 79.58° in September, 70.25° in October, 62.20 in November, and 55.43° in December. The rise and progress of the temperature during the summer corresponds to the rise and progress of yellow fever in New Orleans.

The maximum temperature, 100° F., for the entire series of years 1817–1881, was attained in 1841 and 1850; in the former year about 1800 deaths were occasioned by yellow fever, and in the latter the victims numbered only 107. The next highest temperatures with the annual mortality by yellow fever, were as follows: 1874, 99°, deaths from yellow fever, 11; 1838, 98°, no epidemic; 1840, 98°- 3 deaths; 1873, 98°, 226 deaths; 1860, 97°, 15 deaths; 1881, 79°, no deaths; 1877, 96.5°, 1 death; 1826, 96°, 5 deaths; 1839, 96°, 800 deaths; 1852, 96°, 456 deaths; 1843, 95°, 1000 deaths; 1855, 95°, 2615 deaths; 1875, 95°, 61 deaths; 1878, 95°, 4056 deaths; 1847, 94°, 2600 deaths; 1848, 94°, 872 deaths; 1849, 94°, 769 deaths; 1853, 94° 7849, deaths; 1862, 94°, 2 deaths; 1863, 93.5°, 2 deaths; 1864, 93.5°, 6 deaths; 1879, 91°, 19 deaths; 1880, 92° 2 deaths. Such facts indicate that the prevalence of yellow fever in New Orleans is not necessarily associated with the prevalence during the hot months of the highest degree of heat.

The minimum temperatures, were reached in the following years, with the accompanying mortality from yellow fever: 1870, 16° F., 587 deaths; 1852, 17°, 456 deaths; 1864, 18°, 6 deaths; 1872, 19°, 39 deaths; 1877, 21°, 1 death; 1838, 22°, no epidemic; 1878, 23°. 4056 deaths; 1876, 24°, 42 deaths; 1826, 25°, 5 deaths; 1845, 26°, 2 deaths; 1850, 26°, 107 deaths; 1879, 20°, 19 deaths; 1880, 20°, 2 deaths; 1881, 31° no deaths. Such facts would seem to sustain the proposition, that extremes of cold were unfavorable to the generation of yellow fever. But a more critical examination will show, that this proposition should not be unconditionally accepted: for the effects of the extreme cold temperature of each year should be considered in the months of January, February and March, and of the months of December, November and October of the year immediately preceding. The early supervention of cold weather and of frost without doubt, exerts a marked effect, in arresting the progress of epidemics of yellow fever, and it would also appear that an excessive degree of cold in the winter preceding, tended to remove or retard the operation of the cause or causes inducing yellow fever. It is worthy of note, that during the entire period covered by the following table, in almost every year, the temperature fell in New Orleans, during the winter months, to that point which insured the occurrence of frost, and the induction of that low point of temperature, which insured the arrest of the epidemic constitution necessary to the generation and propagation of yellow fever.

The connection of yellow fever with the rain-fall is worthy of study; and as a scientific basis for this investigation we have consolidated from the most reliable sources the preceding table.

EXTREME (MAXIMUM AND MINIMUM) TEMPERATURE, MONTHLY AND ANNUALLY, IN NEW ORLEANS, LA., DURING A SERIES OF YEARS. CONSOLIDATED BY JOSEPH JONES, M. D., NEW ORLEANS, LATITUDE 29° 57′ N., LONGITUDE 90° 5′ W. ALTITUDE 10 FEET.

YEAR.	January.		February.		March.		April.		May.		June.		July.		August.		Sept.		October.		Nov.		Dec.		Year	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	M.	Max.	Min	Max.	Min.
1817	....	....	....	....	....	....	....	....	....	....	92	....	92	....	94	....	85	....	....	....	....	....	....	....	94	....
1819	70	41	74	48	79	45	82	50	84	71	89	74	88	73	85	76	86	69	83	44	77	53	70	37	89	37
1826	77	25	84	42	82	52	88	52	92	62	93	75	96	78	94	76	90	64	80	61	83	48	72	34	96	25
1838	77	29	80	26	90	40	91	50	91	52	98	64	98	72	90	76	91	63	87	45	84	34	80	22	98	22
1839	74	28	76	35	79	32	88	50	96	64	96	69	95	73	96	74	94	65	86	60	82	30	67	29	96	28
1840	78	28	84	36	88	52	90	54	94	57	94	70	98	80	100	74	93	64	90	42	80	32	78	32	98	28
1841	76	29	74	29	80	50	91	53	90	60	94	72	100	80	90	76	90	62	86	40	84	30	80	36	100	29
1842	82	35	78	32	86	50	82	55	85	58	87	72	88	73	87	72	89	72	82	47	78	33	79	31	89	31
1843	74	29	74	28	76	33	86	49	87	57	87	71	94	72	94	66	95	66	88	38	82	55	76	35	95	28
1844	76	37	80	38	82	42	85	45	89	67	89	69	92.5	73	92.5	69	91.5	61	85.5	46	80	55	75	33	92.5	33
1845	72	36	79	34	80	42	86	52	85	57	91	67	93	73	92	72	88	63	79	51	73.5	30	69	25	93	25
1846	70	32.5	68.5	40	73	50	87	57	89.5	63	89	68	90	74	89.5	70	90.5	68	84	46	81	32	81	40	90.5	32
1847	78	27	79	35	80	41	84	52	87	62	94	71	90	71	91	71	91	66	87	51	83	29	76	31	94	27
1848	78	31	77	36	79	43	81	52	88	59	94	70	94	74	92	70	94	63	87	52	75	37	76	30	94	30
1849	76	37	77	35	88	41	85	42	92	65	92	70	92	73	92	70	94	63	87	52	75	37	76	30	94	30
1850	79	34	84	26	85	36	90	38	92	48	93	58	95	70	100	69	97	62	90	42	85	40	80	24	100	26
1851	81	30	82	34	84	37	90	48	90.5	54	94	71	94	76	95	76	92.5	62	89	47	83	43	81	26	95	25
1852	74	17	80	39	85	39	80	47	90	67	93	70	95	74	94	74	90 5	69	96	55	84	39	80	39	96	17
1853	74	32	77	38	77	44	86.5	48	91	58	92	73	93	71	94	72	92.5	60	86	48	80	45	74	34	94	32
1854	79	30	87	37	83	41	87.5	49	91	63	96	71	94	77	95	79	94	75	87	67	81	44	72	37	96	30
1855	60.4	50.4	73	30	80	29	84	45	95	65	92	70	93	76	93	78	93	76	78	42	82	48	72	30	95	29
1856	59	30	70	27	78	47	80	63	89	68	89	78	90	79	90	78	87	62	74	53	82	45	76	35	90	27
1857	68	28	78	42	78	43	79	47	85	58	88	73	88	74	87	78	87	70	79	57	80	39	78	42	88	28
1858	73	50	70	40	77	42	82	56	84	65	86	72	90	78	90	73	87	70	84	64	73	43	76	43	90	40
1859	68	36	78	44	81	52	86	54	89	68	90	73	90	76	91	75	89	72	82	50	79	44	77	32	91	32
1860	72	35	75	38	80	54	93	65	89	65	94	77	97	83	95	77	93	65	86	54	79	40	74	34	97	34
1861	....	....	....	....	....	....	79	50	88	62	88	69	89	64	88.5	71	96	52	83	54	76	43	78	34	89	....
1862	77	38	77.5	35	84	38	81	44	87	64	93	65	93	70	94	72	89	70	86	34	70	32.5	76	33	94	32 5
1863	72	23	79	27	77	37	81.5	40	87	50	93	67	93.5	70	92	63	90	50	82	44	78	23	74	22	93.5	22
1864	74	18	76	23	73	30	84.5	44	88	53	91	63	93.5	63	92 5	74	90.5	62	83	42	83 5	24	79	21	93.5	18
1865	71.5	26	75	26.5	80	33	84	47	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
1867	....	....	....	....	....	....	....	....	....	....	90	70	92	70	92	79	87	75	85	52	....	....	....	....	92	....
1869	....	....	....	....	87	36	90	46	85	55	91	65	92	71	93	70	89	56	82	40	79	38	70	31	93	....
1870	72	31	75	31	81	31	78	43	92	52	91	62	92	68	92	70	89	62	82	47	82	31	76	16	92	16
1871	72	27	78	41	78	42	84	50	86	52	92	69	92	72	92	73	89	55	85	54	84	41	79	26	92	26
1872	76	26	75	31	74	36	84	57	89	57	91	71	93	72	93	74	90	66	83	49	79	29	72	19	93	19
1873	66	25	81	43	81.5	38	86	45.5	98.5	57	92	72.5	98	70.5	92.5	71	91	70.5	88	38	77	37.5	78	32	98	25
1874	77	32	77.5	41.5	84	50.5	82	40.5	92.2	57	94	74	95	72	99	73	90.5	63.5	86	51	83.5	39.5	78.5	42.5	99	32
1875	77.5	29	80	31	81	36.5	82	51	90	62	94.5	67	95	74	92	69	94	60	82	51.5	83	46	79	35 5	95	29
1876	78.5	38.5	80	34.5	81	34.5	84	52	89	53	92	69	91	79	89	78	88	61	77	50	73	30	70	24	92	24
1877	76	21	72	42	77	39	80	55	92	56	94	67	96	73	96.5	73	92	63	84	53	78	34	71	34	96.5	21
1878	73	31	73	32	82	42	87	41	90	55	93	66	95	70	94	68	99	57	87	44	82	35	77	23	95	23
1879	73	20	75	38	84	45	85	46	86	63	91	65	91	73	89	69	90	65	86	50	82	38	78	32	91	20

1880	75	42	77	43	81	42	84	49	88	58	90	69	92	71	92	91	90	63	84	52	75	34	78	20	92	20
1881	73	31	78	36	77	42	84	38	90	66	97	71	96	73	93	74	91	63	88	57	80	31	77	40	97	31
1882	77	38	79	39	81.5	51	86	63	88 3	58.5	91.8	67.2	92	69.8	91	72.5	89	61.5	85	59.5	82	36.8	75.5	29.5	92	29.5
1883	77	33.5	80	39.5	80.3	44	84	51	88	56.5	91.8	68.4	94.1	74.5	92.5	73.9	90.5	63	88.7	58.9	81	36.8	75.7	27.8	94 1	27.8
Maximum and minimum during 47 years, 1817-1883	82	17	84	23	90	29	91	38	96	48	98	58	100	63	100	63	99	50	96	34	84	23	81	16	100	16

Whilst the summers are never excessively hot, and at the same time the thermometer during the winter season, in Louisiana, rarely falls below the freezing point, and even in the severest weather never reaches a point lower than 16 degrees below the melting of ice.

The great valley, walled in on the east and west by two diverging mountain chains, and presentinng between the Gulf of Mexico and the Arctic Sea, no elevation much to exceed 2000 feet, there is no great barrier to arrest the flow of the hot, moist southerly winds of summer, or the cold, northerly winds of winter. Along the Gulf coast, the climate assimilates in its features to that of the tropics—clear, blue skies in the morning, starlight nights, gentle showers at midday, and a luxuriant vegetation, with spreading leaves. But even here, the fluctuations occasioned by the change of air currents, are very great. The south winds sweeping over the Caribbean Sea and the Gulf of Mexico, are moist and warm, while the north winds, meeting with no barrier to arrest their progress, and being overland, are dry and cold; and hence the changes of temperature are abrupt.

At New Orleans snow occasionally falls, and for a short time whitens the ground. The frosts which accompany the "northers' are of sufficient intensity to destroy the sugar cane and cotton plants, but at the same time, while they do not strip the trees of their leaves, they hardly admit of a perpetually verdant vegetation. The processes of fructification and exfoliation are arrested, and the distinction between winter and summer are faithfully preserved. It results from the sudden cool changes in winter, that the human constitution in Louisiana is invigorated, and those causes which produce the various forms of malarial diseases are temporarily suspended. While, on the other hand, the warm, moist air of the Gulf has a singular, softening and beautifying effect upon the human form, and the golden climate of Louisiana produces the most beautiful and refined woman.

The climate of Louisiana is still further varied in the salubrious and elevated good uplands of North Louisiana, which cover the greater part of the parishes of Caddo, DeSoto, Sabine, Bossier, Webster, Red River, Claiborne, Bienville, Union, Jackson, Ouachita, Morehouse, and a small part of Caldwell. In the "Florida parishes," east of the Mississippi, a tract of country similar to the good uplands of North Louisiana is found in the eastern part of the two Feliciana's, and in the northeastern corner of East Baton Rouge. A great part of the good upland region is extremely hilly, some of the ridges being almost mountainous in elevation, reaching a height of at least 300 feet above the valley of the main streams, and from 400 to 500 feet above the Gulf of Mexico.

OBSERVATIONS OF THE ELEVATED TEMPERATURE AND SUNSTROKE OR HEAT APOPLEXY OF JUNE, 1881.

EXTRACTS FROM THE PROCEEDINGS OF THE BOARD OF HEALTH, JUNE 23, 1881.

The President, Dr. Joseph Jones, directed the attention of the board of the relations of sudden deaths to elevated and continuous solar heat:

ELEVATED TEMPERATURE OF JUNE, 1881.

During the week ending June 18, the maximum temperatures are as follows: June 12, 91° F.; 13th, 92°; 14th, 95°; 15th, 94°; 16th, 96°; 17th, 92°; 18th, 91°.

The mean of the maximum temperature during this period was 93°, and the mean of the minimum temperature 80.1°, giving an average range between the hottest period of the day and the coolest period of the night of only 12.9°. The mean barometric pressure

was high, being 30.01 inches, or that which the instrument maintains at the level of the sea. During this hot weather, which has continued unabated up to this day, June 23, there has been rain only on the eighteenth, when less than an inch of water (0.64 inch) fell, and the deleterious effects of the prolonged and excessive heat have been in a measure counterbalanced by the low mean humidity, which was 66°. While dry weather with elevated temperature may lead to sunstroke and fatal congestions of the internal organs, at the same time the surface of the earth is dried, noxious vapors are dissipated, formentation is in a measure arrested, and malarial fevers diminished in number and intensity. The effects of this excessive and prolonged heat were shown in the marked increase of deaths caused by sunstróke, congestion of the brain and apoplexy. Thus for the week ending June 11, 1881, the deaths from the causes just indicated were as follows: Sunstroke, 2; congestion of the brain; 4; apoplexy, 2; total from these three causes, 8. For the week ending June 18, 1881, sunstroke, 7; congestion of the brain, 15; apoplexy, 4; total, 26 deaths.

The deaths from congestion of the brain and apoplexy were, without doubt, due largely to the causes inducing the deaths referred to as sunstroke, and we observe that during the last week they had increased more than three-fold.

The total deaths of the week ending June 18, were 189, about one-seventh of which were undoubtedly caused by or traceable to the effects of the heat upon the human system; but, in reality, a much larger number were due to heat, as we find that nearly one-half, or eighty-six deaths, occurred among children under ten years of age, and of this number 51 were under one year of age. Cholera infantum caused 17 deaths, tabes mesenterica 9, enteritis 13, dysentery 10, diarrhœa 5, teething 9, phthisis pulmonalis 14. Total from these diseases 90; that is one-half the mortality was caused by these well-known diseases, recognized as existing in all cities and towns. If to these diseases be added the twenty-six sudden deaths most directly referable to elevated temperatures, we have a grand total of 116 deaths. A critical analysis of the remaining seventy-three deaths reveals the important fact that only six deaths were caused by the various forms of malarial fever, as follows: Remittent one, congestive one, malariel foul. It is a remarkable and encouraging fact that in a city containing 220,000 inhabitants, and situated below the level of the high water of the Mississippi River, only six deaths were caused by malarial fever during the seven days of intense heat.

ELEVATED TEMPERATURE IN THE MONTH OF JUNE, IN THE CITY OF NEW ORLEANS DURING A SERIES OF YEARS—1817 TO 1881.

Years.	Maximum.°	Minimum.°	Years.	Maximum.°	Minimum.°
1817	92		1857	88	73
1819	89	74	1858	86	72
1826	93	75	1859	90	73
1838	98	64	1860	94	77
1839	96	69	1861	88	69
1840	94	70	1862	93	65
1841	94	72	1863	93	67
1842	87	72	1864	91	63
1843	87	71	1867	90	70
1844	89	69	1869	91	65
1845	91	67	1870	91	62
1846	89	68	1871	92	69
1847	94	71	1872	91	71
1848	94	70	1873	92	72
1849	92	70	1874	94	74
1850	93	58	1875	94	67
1851	94	71	1876	92	69
1852	93	70	1877	94	67
1853	92	73	1878	93	66
1854	96	71	1879		
1855	92	70	1880		
1856	89	78	1881	96	78

It will be observed from the preceding observations that only in a single year (1838) was the heat greater than that of June, 1881, and in only two years was it equal, namely, 1839 and 1854.

The mortuary records of New Orleans establish the fact that in past years sunstroke has not caused any great or unusual mortality. The following table, giving the number of deaths from sunstroke in New Orleans during the periods specified, sustains the preceding proposition:

DEATHS FROM SUNSTROKE IN NEW ORLEANS.

Years.	Deaths.	Years.	Deaths.	Years.	Deaths.
1849	20	1865	22	1874	25
1850	18	1866	18	1875	4
1853	21	1867	7	1876	7
1856	12	1869	4	1877	9
1857	4	1870	6	1878	2
1858	20	1871	8	1879	1
1863	6	1872	7	1880	2
1864	1	1873	15	1881	..

It should be observed that the preceding data relates to the total number of deaths from sunstroke during the entire year. It is evident that New Orleans has never suffered from such devastating effects of solar heat as have upon several occasions occurred in New York, Philadelphia and St. Louis.

The following table illustrates the relations of apoplexy, sunstroke and congestion of the brain to the variations of temperature:

DEATHS FROM SUNSTROKE, APOPLEXY, AND CONGESTION OF BRAIN DURING THE YEARS 1840 TO 1865.

Years.	Cong. of Brain.	Apoplexy.	Sunstroke.	Total.
1849	118	101	20	239
1850	101	107	68	276
1853	111	133	21	265
1856	97	92	12	201
1857	92	105	4	201
1858	156	114	20	240
1863	81	61	6	148
1864	111	75	1	187
1865	97	100	22	219

TABLE ILLUSTRATING DEATHS FROM SUNSTROKE, APPOPLEXY AND CONGESTION OF THE BRAIN, TOGETHER WITH THE MONTHLY MEAN TEMPERATURE DURING THE YEARS 1866 TO 1881, INCLUSIVE.

Years.	May.				June.				July.				August.				September.				October.				Total Six Months.		
	Sunstroke.	Apoplexy.	Congestion of Brain.	Mean Temperature.	Sunstroke.	Apoplexy.	Congestion of Brain.	Mean Temperature.	Sunstroke.	Apoplexy.	Congestion of Brain.	Mean Temperature.	Sunstroke.	Apoplexy.	Congestion of Brain.	Mean Temperature.	Sunstroke.	Apoplexy.	Congestion of Brain.	Mean Temperature.	Sunstroke.	Apoplexy.	Congestion of Brain.	Mean Temperature.	Sunstroke.	Apoplexy.	Congestion of Brain.
1866	..	.....	.....	.....	..	12	8	.....	9	8	9	.....	9	12	12	.....	..	5	5	.....	..	6	5	.....	18	43	39
1867	..	6	15	.....	..	5	9	.....	5	4	18	.....	1	6	22	.....	1	4	23	.....	..	8	11	.....	7	33	98
1869	..	4	19	.....	..	5	9	.....	3	10	15	.....	1	7	7	.....	..	13	7	.....	..	7	5	.....	4	46	62
1870	..	4	9	.....	1	12	4	.....	2	12	8	.....	3	11	14	.....	..	11	13	.....	..	2	4	.....	6	52	52
1871	..	8	5	.....	1	8	20	.....	4	6	17	.....	2	5	21	.....	1	7	12	.....	..	11	8	.....	8	45	83
1872	..	6	22	.....	2	4	12	.....	2	10	17	83.8	3	11	26	84.4	..	3	12	81.4	..	2	18	69.8	7	36	107
1873	..	8	21	75.2	..	10	19	81.6	15	11	29	83.6	..	6	14	82.3	..	9	15	79.5	..	12	23	68.2	15	56	111
1874	..	8	12	76.9	..	14	10	82.6	2	8	22	82.3	23	11	76	85.0	..	5	14	80.4	..	11	17	70.9	25	67	151
1875	..	3	14	77.4	..	5	15	80.9	2	8	16	83.1	1	5	3	80.1	1	9	13	77.2	..	1	8	68.1	4	31	69
1876	..	6	15	72.2	..	5	9	81.6	5	4	18	80.8	1	6	22	79.5	1	4	23	75.3	..	8	11	64.1	7	33	98
1877	..	7	12	73 5	3	7	22	78.1	3	6	9	81.7	3	11	.....	83.3	..	7	12	78.4	..	5	6	70.5	9	43	61
1878	..	7	6	75 5	..	9	9	81.9	2	13	11	83.8	..	7	33	83 6	..	5	29	78.7	..	6	27	71.4	2	47	115
1879	..	9	10	74.8	1	4	9	79.0	..	13	8	81 8	..	4	7	79.3	..	8	4	77.2	..	7	10	71.5	1	45	48
1880	..	3	12	75.5	1	11	16	80.3	..	12	10	82 6	1	10	9	81.5	..	11	19	77.0	..	5	12	68.0	2	52	78
1881	..	7	15	79 0	*9	8	21	83 0	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

*Comprises only the first eighteen days in June,

The statistics of the great Charity Hospital still further demonstrate that the citizens of New Orleans are not liable to sun-stroke.

I have examined carefully the records of the great Charity Hospital of this city during a period in which a population greater than that of New Orleans at this moment, and exceeding 300,000, were gathered within its walls. The following table presents the total number of cases and deaths from sun-stroke in the Charity Hospital for the years specified :

SUN-STROKES.			SUN-STROKES.		
Years.	Cases.	Deaths.	Years.	Cases.	Deaths.
1842	4	2	1860	40	32
1843			1864	2	1
1844			1866	20	7
1845	27	17	1867	10	1
1846	2	1	1868	4	1
1848	10	4	1869	5	2
1849	3	2	1870	9	2
1850	57	32	1871		
1851	26	26	1872	13	7
1852	29	16	1873	11	7
1853	20	12	1874	1	
1854	52	13	1875	2	2
1855	11	5	1876		
1856	9	3	1877	2	1
1857	2	1	1878	6	1
1858	10	4	1879		
1859	12	10	1880		

From the preceding statistics it is established that during a period of thirty-four years in the Charity Hospital, in which the annual admissions from all diseases varied from 18,476 in 1850 to 4,277 in 1842, the total cases of sun-stroke entered upon the books of the Charity Hospital were 399, and the deaths 212. No relationship whatever can be traced in the statistics of the Charity Hospital between sun-stroke and yellow fever.

Thus, the largest numbers of cases and deaths from sun-stroke occurred in 1845, 1850, 1851, 1852, 1854 and 1860. The cases and deaths from yellow fever in the Charity Hospital during these years were as follows :

1845—No deaths, 1 case.
1850—6 cases, 4 deaths.
1851—7 cases, 2 deaths.
1852—496 cases, 339 deaths.
1854—2,743 cases, 1,233 deaths.
1860—2 cases, no deaths.

On the other hand, in 1853, when there were 3,217 cases and 1,890 deaths from yellow fever, only 20 cases and 12 deaths from sun-stroke were recorded. In 1858, 2,727 cases and 1,382 deaths from yellow fever, 10 cases and 4 deaths from sun-stroke. In 1867, 1,493 cases and 672 deaths from yellow fever, 10 cases and 4 deaths from sun-stroke. In 1878, 817 cases and 411 deaths from yellow fever, 6 cases and 1 death from sun-stroke.

It is evident, therefore, that the mere occurrence of prolonged and elevated solar heat forms no ground for the prognostication of evil with reference to the origin or spread of yellow fever and the various forms of malarial fever.

There are three well-defined forms or varieties of sun-stroke, under the designation of sun-stroke, coup de soleil, isolation, heat apopiexy, heat asphyxia, thermic fever, ardent fever and sun fever. Careful observers have recognized certain essentially different pathological states, which are not unfrequently confounded.

Thus excessive heat, whether projected in rays directed from the sun, or accumulated in close, ill-ventilated rooms, may cause :

1. Exhaustion, ending in simple syncope, during great fatigue or over-exertion, when there is depression of vital power during exposure to high temperature.

The skin is pale, cold and moist, and the pulse feeble, indicating depression of nerve force and muscular power. Death may occur in this state from failure of the heart, but with proper care and treatment recovery frequently takes place.

2. The direct rays of a powerful sun often induce an effect upon the brain and spinal cord analagous to that known to surgeons and physicians as shock. During the exposure of the head and spine to the direct rays of a powerful sun, when the atmosphere is much heated and the nervous energy is so depressed by over-fatigue, illness or dissipation, asphyxia or aphnœa (stoppage of breath) may come on, after premonitory symptoms of depression and weakness. The brain and respiratory nerve centres are overwhelmed by the sudden rise of temperature, respiration and circulation fail, and death often results. Without doubt this sudden and fatal action of the rays of the sun is fre-

quently aggravated by or consequent upon the improper and free use of alcoholic stimulants and to excess of various kinds which have impaired the tone and vigor of the nervous system. Pre-existing disease of the heart or kidneys, brain and spinal cord, may in like manner give a peculiar susceptibility to the effects of heat. The susceptibility is also sometimes established by the effects of severe grades of fever.

3. The rapid elevation of the temperature of the blood, and of the entire body, above the normal standard, either from direct exposure of the sun's rays, or more frequently to a higher temperature of the surrounding medium. In the thermal fever caused by the action of heat whether artificially applied to the nerve centres, or directly received from the sun, thereis paralysis of the vaso-motor nerves, failure of the respiration and circulation, followedby asphyxia and death. Even when recovery takes place after this form of sunstrokeit is often tedious and imperfect, and sometimes ends in serious impairment to the intellect. The sudden rise of temperature from the normal standard of health, 99° F. to from 108° to 111°, may, as is well known, occur independently altogether of the direct action of the sun's rays, during the night, in crowded, hot, badly ventilated rooms, in persons depressed by fatigue, foul air, overcrowding and alcoholic stimulants. As the normal temperature of the body is maintained at a certain standard, at the Poles and in the hot regions of the Tropics, by the relative activity of the respiratory and cutaneous funtions, and the tempeature and evaporation of the moisture from the skin and lungs, it is evident that incresed chemical change due to overheating or to abuse of alcoholic stimulants, and the suppression of the functions of the skin and lungs by overcrowding, and hot and foul air, must be prolific of mischief during such a heated term as we are now experiencing. Alcoholic stimulants, when used to excess, may exert deleterious influences, more especially during the hot weather, by overwhelming the nerve centres, paralyzing the vaso-motor nerves, and inducing fatal congestions. Such instances have frequenty been observed by the experienced physicians of New Orleans.

It is not the province of this Board to enter into the question of the treatment of diseases; and when its executive head has faithfully stated the nature and causes of the fatal and prevailing forms of disease, and placed the public in possession of the essential facts of sanitary and hygienic science, questions of remedial measures and agents may be left where they properly belong, namely: In the hands of the enlightened and faithful physicians of New Orleans, who have been noted for their skill, humanity and patriotism. It may be claimed that the physicians and surgeons of New Orleans have contributed as much to the cause of suffering humanity as any body of scientific and learned men of equal numbers in the civilized world.

During this century alone the medical profession of New Orleans have faithfully and gratuitously attended in the great Charity Hospital patients from every State in the Union, and from every country under the sun, to a number which reached over 450,000, or twice the present population of this city.

RELATIONS OF MALARIAL AND YELLOW FEVER TO CLIMATE.

Malarial fevers prevail chiefly in the summer and autumn in New Orleans, but they are never absent during any portion of the year. Yellow fever on the other hand prevails chiefly during the months of June, July, August, September and October, the heaviest mortality occurring as a general rule in August and September, as will be seen from the following tables:

MONTHLY DEATHS BY YELLOW FEVER DURING A PERIOD OF 32 YEARS, 1847–1878.

YEAR.	May	June.	July.	August.	September.	October.	November.	December.	Total deaths by Yellow Fever.	Date of First Case.
1847	.....	.....	74	965	1100	198	33	.....	2306	July 6th.
1848	.....	4	33	200	467	226	20	.....	808	June 21st.
1849	.....	.....	1	17	214	416	112	9	769	July 28th.
1850	1	.....	4	62	33	4	.....	.....	107	1 death January, 2 March, 1 May.
1851	.....	.....	.....	8	6	2	1	.....	17	
1852	.....	.....	2	8	91	198	105	11	456	July
1853	2	31	1521	5133	982	147	28	4	7849	May 22d.
1854	.....	2	29	532	1234	490	131	7	2425	First death June 12th.
1855	.....	5	382	1286	874	97	19	7	2670	June 19th.
1856	.....	.....	.....	14	40	16	4	7	74	June 28th.
10 Years.	3	42	2046	8225	5041	1794	453	55	17481	
1857	.....	1	1	1	8	98	82	8	200	1 death reported in January.
1858	.....	2	132	1140	2204	1137	224	5	4845	1 death reported January 10th.
1859	.....	.....	.....	.....	1	59	28	3	91	June.
1860	.....	.....	3	7	5	.....	.....	.....	15	
1861	.....	.....	.....	.....	.....	.....	.....	.....	.....	
1862	.....	.....	1	.....	1	.....	.....	.....	2	
1863	.....	.....	.....	.....	2	.....	.....	.....	2	About 100 cases in U. S. river fleet.
1864	.....	.....	.....	.....	.....	4	1	1	6	About 200 cases and 57 deaths U. S. gunboats and river fleet.
1865	....	.....	.....	1	.....	.....	.....	.....	1	
1866	.....	.....	.....	5	56	89	31	4	192	1 death 10th August.
10 Years.	.....	3	137	1154	2277	1387	366	21	5354	
1867	.....	3	11	255	1637	1072	103	26	3107	1 case died June 10th.
1868	.....	.....	.....	.....	.....	5	.....	.....	5	October 5th, died in Charity Hospital.
1869	....	.....	1	.....	.....	2	.....	.....	3	July 17th.
1870	.....	1	.....	3	231	242	106	5	588	May 26th.
1871	.....	.....	....	2	9	22	19	2	54	July 30th.
1872	.....	.....	.....	1	5	24	7	2	39	August 28th.
1873	.....	.....	3	19	208	79	17	.....	226	July 9th.
1874	....	.....	.....	.....	.....	2	6	2	1	11	August 19th.
1875	.....	.....	.....	.....	5	24	20	9	3	61	August 8th.
1876	.....	.....	.....	.....	1	19	17	4	1	42	August 11th.
10 Years.	.....	4	15	286	2135	1489	267	40	4136	
1877	.....	.....	.....	.....	.....	.....	1	.....	1	November.
1878	2	.....	50	974	1893	1044	90	3	4056	May 25d.
2 Years..	2	.....	50	974	1893	1044	91	3	4057	
32 Years.	5	49	2248	10639	11346	5714	1177	119	3128	

From the preceding table, it is evident that as a general rule the great epidemics, as those of 1847, 1849, 1853, 1854, 1855, 1858, 1867 and 1878, commenced early in the hot months (May, June and July) and attained their maximum intensity in August and September. Thus during the period of thirty-two years, the deaths from yellow fever in New Orleans were as follows: January, 6; February, 0; March, 2; April, 0; May, 5; June, 49; July, 2248; August, 10,639; September, 11,346; October, 5714; November, 1177; December, 119.

The curve of yellow fever, therefore, corresponds to a certain extent with the curve of temperature. Thus, from the records of thirty-eight

years, which I have consolidated and calculated from the most reliable data, the mean temperature of New Orleans is as follows: January, 56.28; February, 58.03; March, 64.27; April, 69.41; May, 75.00; June, 81.35; July, 183,21; August, 83.14; September, 79.64; October, 70.27; November, 62.30; December, 56.43; spring, 69.56; summer, 82.53; autumn, 70.75; winter, 56.91; year, 69.51 F.

The origin and spread of yellow fever, therefore, depends absolutely upon an elevated temperature, ranging from 70° to 85°, and its decline depends upon a mean temperature ranging from 65° to 56° F. These figures, of course, relate to the mean or average monthly temperature, the extremes being much higher or lower, ranging during the year, in New Orleans, as shown by meteorological observations extending from 1817 to 1878, from 17° to 100° F.

On the other hand, the various forms of malarial fever are more uniformly distributed throughout the months of the year, although this class of diseases, as well as yellow fever, show their maximum intensity in number of cases and fatality in those months of the year in which the temperature is most favorable to the putrefaction of animal and vegetable matters, and the development of the lower and most prolific forms of animal and vegetable life, and especially those forms which are active agents in putrefaction and fermentation. Thus, the deaths caused by the various forms of malarial fever were, in 1878, as follows: January, 6; February, 3; March, 9; April, 15; May, 12; June, 13; July, 25; August, 136; September, 146; October, 111; November, 41; December, 6.

The mortuary records, however, give but an imperfect and delusive view of the relative prevalence of the various forms of paroxysmal or malarial fever in New Orleans, from the well-known fact that these diseases rarely prove fatal. The favorable results obtained in the treatment of intermittent, remittent and congestive malarial fever, are, at the present day, mainly due to the free and prompt administratiion of quinine by the physicians of this city and of other parts of the Southern country.

The relationship of the forms of malarial fever to the climate and seasons, and to other diseases as yellow fever, are best established by the statistics of fever hospitals situated in malarial districts, where also yellow fever is at times endemic and epidemic.

The records of the Charity Hospital of New Orleans furnish the best field for such inquiries, as it has been justly regarded as one of the great fever hospitals of the world. The following statistics will serve as illustrations of the numerical relations of malarial fevers to climate and yellow fever.

It appears frsm the records of the Charity Hospital, that during a period of ten (50) years—January 1, 1841, to January 1, 1851—there were admitted into this hospital, 91,892 patients; of which number there were admitted, *all the different forms of fever*, 45,149; and among these last, for intermittent fevers, 25,183.

It would thus appear that nearly one-half of all the patients admitted into this hospital were for the different forms or types of *fever* and that *more than half of these were* intermittents. It should be mentioned that this vast number of patients included a lunatic asylum, having from sixty to ninety inmates up to June 1848, when it was removed to Jackson. This large number of fever patients included many that were imported by sea, and brought from neighboring States and foreign countries, and furnished also by the army of Mexico, which twice passed, during this period, through New Orleans. The intermittent and paroxysmal form of fevers mostly originate in the Mississippi Valley, whilst the continued fevers are mostly imported.

The following statement will show the prevalence of intermittent fevers at the different seasons of the year, for the time specified:

TABLE OF ADMISSIONS OF CASES OF INTERMITTENT FEVER IN CHARITY HOSPITAL OF NEW ORLEANS, IN THE DIFFERENT SEASONS OF THE YEAR—1841-1849, INCLUSIVE.

YEAR.	Spring.	Summer.	Autumn.	Winter.	All Fevers.	Yellow Fever.
1841	112	403	177	92	1991	1113
1842	114	453	394	135	1758	410
1843	85	208	413	137	2222	1053
1844	117	469	732	231	2207	152
1845	180	353	664	206	1763	1
1846	236	569	1045	218	2603	148
1847	391	508	691	602	6901	2811
1848	282	689	874	535	6361	1234
1849	420	1701	3738	1275	7575	1060
Total	1937	5353	8718	2431	33,381	7982

During the years specified, there was but one single year (1845) in which New Orleans was exempt from yellow fever,

It is evident, from this table, that intermittent fever prevails in New Orleans the year round, gradually increasing from the winter up to the autumn, when it begins to decline. Whilst variations appear in different seasons and years, and whilst the cases were most numerous when there was less yellow fever, still intermittents are never absent, even when yellow fever committed its greatest ravages, as in 1841, 1847, 1848 and 1849.

If, during the nine years specified, the months be selected in which yellow fever prevailed to the greatest extent, the following relations to the cases of this disease and malarial fever will be established:

FEVER STATISTICS, CHARITY HOSPITAL, NEW ORLEANS, LA. TABLES SHOWING THE ANNUAL AND MONTHLY ADMISSIONS OF THE DIFFERENT FEVERS.

Year.	Total Admissions.	FEVERS.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total Fevers.
1841	4380	Intermittent	3	27	45	39	28	65	187	151	18	66	93	72	794
		Typhoid	1										5	6	12
		Congestion	4	3	1				7	3		3	1	2	24
		Remittent	3	2		2	9	6	31	13	5	1	7	2	81
		Malignant Intermittent							3	3					6
		Yellow								174	642	252	37	8	1113
		Bilious												3	3
		Total	11	32	46	41	37	71	228	344	665	322	143	93	2033
1842	4404	Intermittent	45	29	35	39	45	124	160	169	144	140	110	61	1101
		Remittent	4		1	3	4	8	12	34	41	35	11	3	156
		Typhoid	9	2				4			2	2	2	1	22
		Bilious				2		3	9	3	1	2	2	1	23
		Congestive	1		3	3	2		10	5	4	9	2	1	40
		Gastric					1	2	6	1				1	11
		Catarrhal						1				1		1	3
		Yellow								47	247	93	23		410
		Nervous										1			1
		Adynamic										1			1
		Total 1842	59	31	39	47	52	142	197	259	439	284	150	69	1768
1843	5013	Intermittent	31	30	35	31	19	40	70	98	128	136	149	76	843
		Typhoid	2										2		4
		Remittent	1			1		9	40	75	49	12	8	10	205
		Catarrhal	1							1					2
		Bilious	1			1	15	3	37	5	2	2	3	2	71
		Typhus						3	6						9
		Congestive						3	17	4					24
		Gastric						1	1	1				4	7
		Continued						1							1
		Yellow							32	188	365	351	111	15	1062
		Cephalic													3
		Total 1843	36	30	35	33	34	60	203	372	544	501	273	107	2231

FEVER STATISTICS, CHARITY HOSPITAL—Continued.

Year.	Total Admissions.	FEVERS.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total Fevers.
1844	5846	Intermittent	66	49	41	32	44	75	176	258	255	261	216	116	1589
		Remittent	2	4	2	1	4	24	30	47	67	55	5	3	244
		Yellow	2	2	....	....	....	1	1	1	68	52	25	...	152
		Typhoid	6	....	1	3	....	3	10	12	11	8	6	20	80
		Simple	3	6	3	....	....	....	....	....	....	....	....	....	12
		Gastric	1	....	....	....	2	1	....	....	5	2	....	....	11
		Typhus	....	4	....	....	....	....	....	....	....	....	....	....	4
		Bilious	....	....	2	4	2	....	1	....	....	3	....	1	13
		Inflammatory	....	....	1	....	....	....	2	....	2	2	2	2	11
		Congestive	....	....	....	1	7	11	17	14	13	15	....	3	81
		Adynamic	....	....	....	....	....	....	2	....	2	....	....	..	4
		Continued	....	....	....	....	....	2	....	....	....	3	....	....	5
		Eruptive	....	....	....	....	....	....	....	1	....	....	....	....	1
		Total 1844	80	65	50	41	59	117	239	333	423	401	254	145	2207
1845	6136	Intermittent	7	75	57	44	79	112	145	96	279	196	189	124	1403
		Typhoid	7	6	5	2	10	8	11	14	18	20	15	23	139
		Remittent	2	1	....	1	11	17	38	34	33	17	....	....	154
		Congestive	3	....	1	....	1	2	1	4	5	4	....	....	21
		Inflammatory	2	....	..	....	....	....	1	1	....	....	....	....	4
		Yellow	..	1	....	....	....	....	....	....	....	....	....	....	1
		Continued	....	1	....	2	1	1	....	....	....	....	....	....	5
		Nervous	....	....	....	1	....	1	1	....	....	....	....	....	3
		Bilious	....	....	....	1	2	6	1	1	1	2	....	....	14
		Simple	....	....	....	1	....	4	1	1	1	1	....	....	9
		Pernicious	....	....	....	....	2	..	2	....	....	....	....	....	4
		Other fevers	....	....	....	....	....	....	....	....	2	1	2	1	6
		Total 1845	21	84	63	52	106	151	201	151	339	241	206	148	1763
1846	8044	Intermittent	79	58	75	76	85	138	214	227	359	376	310	81	2078
		Typhoid	30	13	7	5	10	12	14	17	5	7	23	52	195
		Remittent	3	3	5		7	6	2	9	22	36	7	3	103
		Congestive	....	....	1	....	1	2	4	2	5	9	2	5	31
		Yellow	....	....	....	....	....	....	....	....	29	83	3	2	4	148
		Bilious	....	....	....	1	....	1	....	....	2	....	....	....	....	4
		Pernicious	2	....	....	....	....	....	....	....	9	....	....	....	....	11
		Catarrhal	....	....	....	1	....	....	....	....	..	....	....	....	....	1
		Nervous	1	1	....	....	....	....	....	....	....	1	....	....	....	3
		Scarlet	2	....	2	....	1	2	....	....	....	1	....	....	....	8
		Malignant	....	....	....	....	....	....	2	....	....	..	....	....	....	2
		Larvata	....	..	....	....	....	....	....	....	2	2	1	1	6
		Pernicious intermittent	....	....	....	....	....	....	....	....	....	6	4	1	11
		Gastric hepatic	....	....	....	....	....	....	....	....	....	1	....	....	1
		Ataxic	....	....	....	....	....	....	....	....	....	....	1	....	1
		Total 1846	117	75	90	83	104	161	236	255	433	522	380	147	2603
1847	11,890	Intermittent	144	117	98	153	140	211	223	74	53	258	380	341	2192
		Typhoid	40	21	50	73	66	20	7	2	1	6	60	111	457
		Typhus	...	2	4	107	165	369	57	1	...	4	100	236	1045
		Remittent	4	1	4	9	17	38	69	64	25	12	18	8	269
		Congestive	1	1	1	2	3	12	10	1	...	1	2	2	36
		Yellow	....	....	....	....	....	5	148	1611	777	219	49	2	2811
		Bilious	2	....	....	2	....	4	7	2	1	9	7	8	42
		Pernicious intermittent	1	....	....	....	2	1	....	....	....	1	....	....	5
		Other Fevers	1	....	....	....	2	1	....	1	....	2	6	26	40
		Total 1847	193	142	157	346	396	661	521	1756	857	512	622	734	6897
1848	11,945	Intermittent	187	115	101	72	110	160	219	310	299	334	271	233	2411
		Remittent	5	8	17	14	25	57	101	87	64	68	39	5	490
		Typhus, Typhoid	520	588	267	169	117	28	23	11	9	56	64	30	1882
		Yellow	....	....	....	.	2	2	31	462	597	105	34	1	1234
		Catarrhal	10	....	....	1	...	2	....	....	....	.	....	....	13
		Bilious	22	17	11	14	4	13	32	27	19	6	....	3	173
		Ephemeral	10	5	8	6	4	3	5	14	9	5	....	4	73
		Congestive	2	....	2	2	3	13	8	16	2	1	4	1	54
		Scarlet	....	....	....	2	1	1	1	2	....	....	....	....	7
		Dengue	....	....	....	....	....	....	....	....	5	1	1	....	7
		Puerperal	....	....	....	....	....	....	....	....	....	....	1	....	1
		Continued	1	1	..	....	1	1	1	....	....	....	1	....	6
		Total 1848	757	734	406	280	267	280	421	929	1004	576	420	277	6351

FEVER STATISTICS, CHARITY HOSPITAL—Continued.

Year.	Total Admissions.	FEVERS.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total Fevers.
1849	15,558	Intermittent	109	114	138	117	69	155	368	592	763	720	360	684	4189
		Typhus	...	127	193	140	128	65	43	44	49	21	23	58	891
		Typhoid	79	....	...	....	....	....	....	....	....	....	....	....	79
		Remittent	5	10	13	14	30	49	72	166	223	116	76	50	824
		Bilious	6	6	19	9	6	10	39	20	11	3	1	..	130
		Yellow	....	....	..	....	....	....	2	28	374	520	130	6	1060
		Ephemeral	4	8	18	18	6	2	7	8	7	1	2	1	82
		Congestive	..	....	....	....	1	4	2	6	8	8	4	6	39
		Puerperal	....	....	....	..	...	1	....	2	...	1	....	....	4
		Scarlet	....	....	....	....	..	....	....	....	....	....	1	....	1
		Cerebral	1	....	....	....	1	...	....	....	1	....	..	...	3
		Continued	1	....	...	..	....	6	6	1	2	2	1	1	20
		Total, 1849	205	265	381	298	241	292	539	867	1438	1392	598	806	7322
1850	18,676	Intermittent													7891
		Remittent													2278
		Bilious													80
		Congestive													31
		Congestive Intermittent													103
		Typhus													1044
		Congestive Remittent													4
		Malignant Intermittent													34
		Continued													77
		Ephemeral													83
		Malignant													1
		Puerperal													4
		Scarlet													3
		Ataxic													4
		Yellow													9
		Dengue													1
		Mesenterica													1
		Total, 1850													11648

Tables 1841-1849, embrace those consolidated from records of Charity Hospital by Dr. Fenner.

It is thus made evident that paroxysmal fevers prevail every year and in every month of the year in New Orleans, thus presenting a marked contrast to the prevalence of yellow fever, which is shut up to much narrower limits.

It appears that the cause of yellow fever, requires for its generation and propagation a higher degree of heat, and that the conditions of its existence are more narrowly defined than those of malarial fever. The cause of the latter disease not only resists successfully a much lower temperature than that of yellow fever, but when once engrafted on the human system, it is far more persistent and indefinite in its duration, and in fact in many cases produces such profound alterations in the constitution of the blood and in certain organs as the spleen and liver, as to constitute a condition of the system, which may underlie and modify supervening diseases. In this respect, therefore, the prolonged action of the malarial poison, resembles that of syphilis, in that it produces radical changes in the blood and arteries.

Yellow fever, on the contrary, acts as a specific well defined disease, affecting as a general rule, the constitution but once, and in the vast majority of cases leaving no recognizable traces of its action.

The preceding proposition will be still further illustrated by the following table, showing the deaths caused by malarial fevers in each month in New Orleans during a period of twelve years, 1869 to 1880, inclusive:

TABLE SHOWING DEATHS FROM MALARIAL FEVERS BY MONTHS, DURING THE YEARS 1869 TO 1880, INCLUSIVE.

	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.	Death rate per 1000 per annum	Population.
1869	13	8	13	16	22	19	47	60	61	35	27	21	342	1.79	191.000
1870	15	9	20	20	31	50	43	46	90	48	46	17	435	2.26	
1871	7	11	15	15	11	35	40	64	65	45	26	14	348	1.82	
1872	15	20	20	14	31	18	34	46	38	32	11	12	291	1.52	
1873	17	14	20	17	30	25	62	55	91	79	25	11	446	2.33	
1874	11	12	12	16	24	24	67	125	50	79	36	32	488	2.32	210.000
1875	10	8	14	19	15	26	39	63	100	55	18	16	383	1.82	
1876	15	14	13	19	20	23	55	38	83	56	41	24	401	1.91	
1877	22	20	12	23	18	47	41	61	79	40	29	17	409	1.95	
1878	10	7	16	23	16	26	47	177	229	163	55	8	773	3.68	
1879	5	3	11	8	13	16	33	30	19	32	20	12	202	0.96	
1880	10	13	18	14	26	32	26	30	79	39	32	19	336	1.55	216.000
Total	150	139	184	204	257	341	534	795	984	703	366	203	4854	....	.....
Average	12.5	11.6	15.3	17.0	21.4	28.4	44.5	66.2	82.0	58.6	30.5	16.9	4.04	1.99	202.500

During the entire 12 years, embracing 144 months, deaths occurred from malarial fever in every individual month.

STATISTICS OF YELLOW FEVER IN CHARITY HOSPTAL OF NEW ORLEANS. DURING A PERIOD OF 57 YEARS.

YEAR.	Admissions. Yellow Fever.	Discharges. Yellow Fever.	Deaths. Yellow Fever.	Per cent of Mortality.	Date of First Case.	Date of Last Case.
1822	337	98	239	70.92	September 3.	December 21.
1823	1	.....	1	100.00	September 11.	.....
1824	167	59	108	64.67	August 4.	November 13.
1825	99	40	59	59.45	June 23.	December 19.
1826	24	19	5	20.83	May 18.	November 18.
Total 5 years.	628	216	412	65.63		
1827	372	263	109	29.30	July 17.	December 5.
1828	290	160	130	44.83	June 19.	December 10.
1829	435	220	215	49.42	May 23.	November 29.
1830	265	139	117	45.72	July 24.	November 29.
1831	3	1	2	66.67	June 9.	October 7.
Total 5 years.	1356	783	573	42.23		
1832	26	8	18	69.23	August 15.	October 25.
1833	422	212	210	49.77	July 17.	November 17.
1834	150	55	95	63 33	August 28.	November 22.
1835	505	221	248	56.24	August 24.	November 27.
1836	6	1	5	83.33	August 24.	October 25.
Total 5 years.	1109	497	612	55.18		
1837	998	556	442	44.29	July 13	November 28.
1838	24	5	19	77.25	August 25.	November 1.
1839	1086	634	452	41.62	July 23.	November 17.
1840	3	.....	3	100.00	July 9.	November 17.
1841	1114	520	593	53.14	August 2.	December 8.
Total 5 years.	3225	1715	1510	43.72		
1842	425	214	211	49.65	August 4.	November 26.
1843	1096	609	487	44.44	July 10.	December 31.
1844	169	86	83	46.11	September 4.	November 25.
1845	1	1	.....	.....	August 10.	August 10.
1846	146	50	96	65.82	August 29.	December 1.
Total 5 years.	1837	960	877	47.74		
1847	2479	1584	895	46.11	June 29.	December 11.
1848	1234	814	420	34.26	June 7.	December 2.
1849	1062	517	545	51.66	July 28.	December 4.
1850	10	6	4	40.00	August 23.	November 16.
1851	7	5	2	28.57	August 1.	October 9.
Total 5 years.	4792	2926	1866	39.06		
1852	496	157	339	68.74	August 20.	November 29.
1853	3317	1327	1890	58 71	May 21.	November 23.
1854	2743	1510	1233	44.91	July 2.	December 1.
1855	2198	1099	1099	50.00	June 3.	December 11.
1856	98	47	51	52 04	August 10.	November 3.
Total 5 years.	8752	4140	4612	52.69		
1857	235	80	155	65.91	September 17.	December 18.
1858	2727	1345	1382	50.67	June 16.	December 23.
1859	107	23	64	78.50	August 29.	November 29.
1860	2	1	.....	.....	August 12.	November 4.
1861	.....	.....	.....	.....	.....	.....
Total 5 years.	3071	1450	1621	52.78		
1862	.....	.....	.....	.....	.....	.....
1863	.....	.....	.....	.....	.....	.....
1864	2	1	1	50.00	.....	.....
1865	.....	.....	.....	.....	.....	.....
1866	130	95	35	28.92	August 27.	November 14.
Total 5 years.	132	96	36	27.27		

STATISTICS OF YELLOW FEVER IN CHARITY HOSPITAL—Continued.

YEAR.	Admissions. Yellow Fever.	Discharges. Yellow Fever.	Deaths. Yellow Fever.	Per cent of Mortality.	Date of First Case.	Date of Last Case.
1867	1493	821	672	45 01	June 9.	October 22.
1868	8	3	5	62.50	October 5.	October 22.
1869	4	3	1	33.33		
1870	518	256	262	50.75		
1871	29	9	20	68.96		
Total 5 years.	2052	1092	960	46.36		
1872	11	3	8	72.72		
1873	118	43	75	63.55		
1874	9	3	6	66.66		
1875	16	5	11	68.75		
1876	3	1	2	66.66		
Total 5 years.	157	55	102	64.96		
1877						
1878	817	406	411	50.44	July 18.	November.
10 years, 1822–1831	1984	999	985	49.64		
10 years, 1832–1841	4334	2212	2122	48 75		
10 years, 1842–1851	6629	3886	2743	41.47		
10 years, 1852–1861	11823	5590	6233	52.71		
10 years, 1862–1871	2184	1188	996	45.57		
Total in 50 years.	26974	13875	13079	48.55		

From the preceding table consolidated from the yearly reports of the Charity Hospital, it will be seen that during a period of fifty years, 1822-1871, 26,974 cases of yellow fever were treated in the Charity Hospital, with a mortality of 48.55 per cent., and if we include the five years, extending to 1876 inclusive, 27,130 cases of yellow fever were admitted, 13,181 of which proved fatal, giving a mortality of 48.65 per cent. for the entire period.

During the entire period of fifty-five years, extending from 1822-1876 inclusive, only four years can be specified in which no case of yellow fever was entered upon the Hospital Register, namely, 1861, 1862, 1863 and 1865. In 1864, only two cases were entered. It is important to note that the period 1861-1865, embraces the American Civil War, when the relations of New Orleans to commerce and emigration were altered, and the city was, to a great extent subject to a strict military government and rigid quarantine.

A progressive increase in the number of cases of yellow fever, admitted into the Charity Hospital, is observed from 1822 to 1858. Thus, if periods of ten years be compared, the following results will be obtained:

Admissions during ten years 1822-1831, 1984; 1832-1841, 4334; 1842-1851, 6629; 1852-1861, 11,823.

This increase should be referred not so much to a relative increase of the disease, as to the growth of New Orleans, and the progressive increase of emigration from European countries and Northern and Northwestern States, during the forty years, extending from 1822-1861 inclusive.

The truth of this proposition can be shown by the statistics of the Charity Hospital and the march of population:

TOTAL ADMISSIONS AND DEATHS IN CHARITY HOSPITAL DURING 55 YEARS—1822-1877 INCLUSIVE.

Year.	Admissions.	Discharged.	Deaths.	Remaining.	Year.	Admissions.	Discharged.	Deaths.	Remaining.
1822	1,689	1,116	57	82	1850	18,476	15,989	1,884	719
1823	1,266	983	283	78	1851	18,319	17,074	1,869	.....
1824	.....	.....	.....	100	1852	18,031	15,057	2,098	.....
1825	1,267	989	218	70	1853	13,759	10,733	3,164	.....
1826	1,408	1,212	196	125	1854	13,192	9,976	2,702	.....
1827	1,853	1,549	304	90	1855	12,192	9,701	2,391	545
1828	2,390	1,989	401	94	1856	9,432	8,398	974	.....
1829	2,548	2,065	483	138	1857	8,903	7,913	1,017	.....
1830	2,790	2,366	424	148	1858	11,337	8,923	2,290	644
1831	3,558	3,149	409	116	1859	12,775	11,257	1,321	730
1832	2,271	1,703	568	309	1860	14,000	12,357	1,390	891
1833	3,731	2,617	1,114	169	1861	8,665	7,918	798	.....
1834	5,797	4,745	1,052	262	1862	6,016	5,532	719	.....
1835	6,225	4,999	1,226	265	1863	.....	.....	.....	373
1836	4,748	4,163	585	222	1864	4,861	3,999	812	423
1837	6,060	4,640	1,420	228	1865	6,466	5,880	669	423
1838	4,573	3,890	683	271	1866	9,329	8,108	1,122	738
1839	4,566	3,611	955	239	1867	8,612	7,260	1,438	637
1840	4,989	4,370	619	267	1868	4,981	4,365	490	660
1841	4,249	3,093	1,156	314	1869	6,177	5,327	784	716
1842	4,404	3,516	760	....	1870	7,837	6,764	1,118	672
1843	5,013	3,672	1,041	.....	1871	6,651	5,730	891	700
1844	5,846	5,059	820	.....	1872	5,541	4,846	825	570
1845	6,136	5,446	563	283	1873	5,090	4,124	993	543
1846	8,044	7,074	855	401	1874	5,231	4,360	860	554
1847	11,406	9,369	2,037	427	1875	4,845	4 131	753	525
1848	11,945	10,010	1,897	828	1876	5,690	4 780	742	693
1849	15.558	12,133	2,741	609					

NATIONALITIES OF PATIENTS ADMITTED TO THE CHARITY HOSPITAL, NEW ORLEANS FOR THE PERIODS SPECIFIED.

YEARS.	Foreigners.	Natives of the United States.	Natives of Louisiana.	Unknown.
12 Years.				
1830–1841	37,543	16,247	512	.....
1842	3,449	921	34	.....
1843	3,921	1,033	59	.....
1844	4,530	1,203	113	.....
1845	4,786	1,231	119	.....
1846	6,151	1,628	145	120
1847	10,171	1,507	53	157
1848	10,280	1,468	111	86
1849	13,634	1,635	147	142
1850	16,598	1,510	264	104
1851	16,503	1,485	241	191
1852	16,144	1,561	248	178
1853	12,333	1,078	228	120
1854	11,606	1,250	252	84
1855	10,861	960	328	43
1856	8,045	1,020	349	18
1857	7,326	1,183	394	.....
1858	9,568	1,391	360	18
1859	10,753	1,637	377	8
1864	2,966	1,167	624	4
1868	3,422	1,014	524	21
1869	3,480	1,841	837	19
1870	4,907	2,163	723	44
1871	4,101	1,847	671	32
1872	3,255	1,622	631	33
1873	3,038	1,363	672	17
1874	3,013	1,437	764	17
1875	2,634	1,332	866	13
1876	2,991	1,669	1,015	15
Total	248,011	55,403	11,761	1,448

Total admissions of Foreigners, Natives of the United States and of Louisiana (1830-1876 inclusive) 316,659.

A comparison of the preceding tables will illustrate the relations of the foreign population to the disease, and especially to yellow fever, treated in the Charity Hospital of New Orleans.

During the period of forty years 1830--1876, 316,659 patients were admitted to the Charity Hospital, and of this number 248,011 were foreigners; 55,403 natives of the United States, outside of Louisiana, and 11,761 were natives of Louisiana.

PRACTICAL OBSERVATIONS ON YELLOW FEVER IN NEW ORLEANS, LA.

Sanitary measures and reforms must be based on facts and not on speculation.

The first step is to view calmly and dispassionately the magnitude and true nature of the evils under which the people labor; and then when the public mind is sufficiently enlightened, those charged with the sanitary improvement of the city, may be either aroused, or compelled to do their duty in the execution and perfection and maintenance of works absolutely essential to the comfort and health of the entire people.

Rome in former times, before she had perfected her wonderful system of sewers, and drained the Pontine marshes, conquered surrounding nations with the sword and destroyed her citizens by fevers; New Orleans on the other hand, has conquered her territory from the domain of the Father of Waters, and by the progressive improvement of her system of drainage, she may hope, finally to banish those fevers which have destroyed her citizens.

The statistics of our great Charity Hospital furnish data for the comprehension of the magnitude of the sufferings, pecuniary expenses, and mortality inflicted upon the citizens of New Orleans by fevers.

At great expense of time and labor I have been able to consolidate the records of the Charity Hospital during a period extending from 1841 to the present time, and now present some of the more important results. (See Tables A and B).

During eighteen years preceding the civil war, 1842--1860, the total admissions into the Charity Hospital of New Orleans 207,356; total deaths, 29,614; the per cent of deaths, 14.2.

During sixteen years following the civil war, 1864--1881, total admissions, 96,857; total deaths, 14.104; per cent, 14.5.

Total admissions during 34 years, 304,213; total deaths, 43,718; per cent. 14.3.

Yellow Fever—1842-1860 (18 years): cases, 16,073; deaths, 8,081. Per cent. of mortality in yellow fever, in the Charity Hospital, for the period specified, 50.2.

1864-1881 (16 years): cases, 3,160; deaths, 1,560. Per cent. of mortality, 49.6.

It is evident, therefore, that during the 34 years specified, that there were treated in the wards of the Charity Hospital 19,233 cases of yellow fever, with 9,667 deaths, giving a mortality of 50.2 per cent.

It would appear from the preceding statement that yellow fever has greatly diminished during the past thirty-four years. This fact will be still more evident by extending the review over a longer period, from 1821 to 1881.

CASES OF YELLOW FEVER FOR TEN YEARS, AS FOLLOWS:

YEARS.	CASES.	DEATHS.	PER CENT.
1822 to 1831	1,984	985	49.64
1832 to 1841	4,334	2,122	48.75
1842 to 1851	6,614	2,743	41.47
1852 to 1861	11,823	6,233	52.71
1862 to 1871	2,183	996	45.57
1872 to 1881	817	411	50.44

Total cases of yellow fever treated in the Charity Hospital during the past sixty years, 26,958; deaths, 13,079. per cent of mortality, 48.55. During the last twenty years, 1862 to 1881, the cases numbered 3000, and the deaths 1407; during the middle series of years, 1842 to 1861, the cases numbered 18,437, and the deaths 8976; during the first series of twenty years, 1822 to 1841, the cases numbered 6318, and the deaths 3107.

The remarkable decrease in the number of cases of yellow fever occurring in the city of New Orleans, as evidenced by the statistics of the Charity Hospital, during the past twenty years, is rendered still more apparent when we reflect that during the period of the sixty years specified, the population of the city of New Orleans had increased from 41,351 (city 27,242, parish of Orleans 14,175) in 1820, to 216,359 in 1880.

This marked diminution of yellow fever cases in New Orleans may be referred to several causes, as—

1. The progressive improvement of the sanitary condition of the city by the extension of the drainage system, the prompt removal of garbage and fœcal matters, and the more general use of disinfectants.

2. The marked diminution in the rate of increase amongst the white population from the influx of emigrants from foreign countries.

This proposition will command special consideration and amplification.

3. The substitution of iron steamships for wooden sailing vessels, and the displacement of smaller vessels by those of greater size and increased speed; the modern revolution in naval architecture, consequent upon the introduction of steam as the motor and iron as the material, has been attended with great gain, by rendering voyages much shorter, and by permitting of better ventilation and more perfect sanitary arrangement.

The stay of ships in infected ports has, in like manner, been shortened.

The mechanical appliances for loading and unloading ships are vastly improved, and the number of seamen necessary to conduct the same amount of commerce greatly diminished; although, from the increase of manufactures, and the increase of traffic, the total number of men now engaged in commercial pursuits is greater than at any former period in the world's history.

4. The improvement in the sanitary condition of ships, and the increased attention to the hygiene and comforts of seamen in the matter of sleeping quarters, clothing and food.

Here is a field worthy of the labors of the wisest and best sanitarians and humanitarians.

The interest awakened in our day amongst the masses with reference to public and private sanitation, has pervaded even the great mercantile and commercial world, and one of the grandest achievements of modern sanitary science will be the development and perfection of such a sanitary system, including ventilation and disinfection, and personal cleanliness, that the importation of contagious and infectious diseases by ships from

one country to another will be rendered impossible. As President of the Board of Health of Louisiana, I have endeavored to advance this important work by every means at my command.

We have stated that the second proposition needed further consideration and amplification, and we shall now endeavor to throw light upon this important subject.

During ten years inclusive, 1817-1826, the population of the city proper, of New Orleans increased from 24,196 to 40,766; actual increase 16,570 or 64 per cent. The deaths from all causes numbered 17,500, and the deaths from yellow fever 2734; or one death from yellow fever in 6.7 deaths from all causes.

During the ten years, 1827-1836, the population increased from 40,766 to 65,600; actual increase 24,834, or 69 per cent. Deaths from all causes, 32,-382; deaths from yellow fever, 3042; one death from yellow fever in 10.6 deaths from all causes.

During the ten years, 1837-1846, the population increased from 65,600 to 102,070; actual increase 36,470, or 55.6 per cent. Deaths from yellow fever 4453; one death from yellow fever in 8.4 deaths from all causes.

During the ten years, 1847-1856, the population increased from 102.070 to 161,404; actual increase 59,334, or 58 per cent. Deaths from all cause 92,-018; deaths from yellow fever 18,043; one death from yellow fever to 5.1 deaths from all causes.

During the ten years 1857-1866, the population increased from 161,404 to 178,042; actual increase 16,638 or 10.3 per cent; total deaths from yellow fever 5367, or one death from yellow fever in 14.14 deaths from all causes.

During the ten years 1867-1876, the population increased from 178,042 to 204.424; actual increase 26,382 or 14.8 per cent; deaths from all causes 69,886; deaths from yellow fever 4133 or one death from yellow fever in 16.9 deaths from all causes.

During the entire period extending from 1817 to 1878 inclusive, sixty-two years, the population of New Orleans increased from 24,196 to 210,000; actual increase in sixty-two years, 175,804 or 727 per cent. The total deaths during this period amounted to 342,480, and the total deaths from yellow fever 41,829; or one death from yellow fever in 8.2 deaths from all causes.

If the increase of the population of New Orleans be estimated at the regular intervals of the United States census, we obtain the following figures: In the ten years, 1820-1830 New Orleans gained 19,134 inhabitants or 70 per cent; in ten years 1830-1840, increase, 55,883, or 120 per cent; in ten years 1840-1850 inclusive 14,192, or 13 per cent; in ten years 1850-1860, increase 52,295, or 46 per cent; in ten years 1860-1870, increase 22,748 or 13 per cent.

There are no accurate statistics to show the actual population in 1878, but judging from the disturbed state of politics from 1870 to 1878, and the contraction of business, and the loss of commerce, the increase of taxes and public debts, the estimate of 210,000 as the population of New Orleans in 1878, appear to me very near the true figures.

It is worthy of note that during the ten years 1860-1870, embracing the entire period of the civil war, and still more disastrous period of so-called "reconstruction," there was an actual decrease in the white population of New Orleans from 144,586, to 140,923, whilst there was an increase of colored population (negro race) from 27,074 to 50,456.

Whilst therefore the whites actually decreased 3,673, the colored population increased 23,382 or 85 per cent.

Whilst the negro population of New Orleans had nearly doubled itself in ten years, 1860-1870; on the contrary during the ten years 1850-1860

(according to the United States census), the white population had increased from 59,459 to 144,596, showing a gain of 55,137; and the negro population from 26,916 to 27,074, showing a gain of only 158.

A complete revolution was therefore made in the population of New Orleans by the results of the civil war. The loss of 3673 white citizens during the period embracing the civil war (1860-1870) did not represent the actual destruction occasioned amongst the whites by the casualties of the war, for it will be admitted on all hands that a large immigration set in to New Orleans from all parts of the Southern States after the close of the war, and this city probably contained a larger white population in 1866 and 1867, than at any previous or subsequent time.

The prevalence, as an epidimic, of yellow fever in 1867, was mainly due to two causes:

1. The absence of yellow fever, as an epidemic, since 1858, and consequently all children under eight years of age were liable to the disease; and,

2. To the influx of unacclimated strangers into the city.

The immunity of New Orleans from yellow fever in 1863, 1864, and 1865, can no more justly be referred to the sanitary measures of the United States government during that period, than to those of the city and State and Confederate governments in 1859, 1860, 1861 and 1862, when New Orleans enjoyed an almost equal immunity from yellow fever, the deaths from this disease being in these years respectively: 1859, 92; 1860, 15; 1861, none; 1862, 2. We have no data to show the actual number of deaths amongst the Federal troops on land and water in and around New Orleans, 1863 to 1865; but that yellow fever was present is well established. The comparison of the preceding facts with the statistics of yellow fever in the Charity Hospital, leads still more strongly to the conclusion that epidimics of yellow fever occur most frequently, and prevail to the greatest extent, in those seasons in which a large number of passengers from foreign countries arrived in this city.

Thus far, the following are the number of passengers from foreign countries who have arrived in New Orleans and paid a specific tax to the Charity Hospital: 1842, 30,832; 1843, 24,930; 1844, 19,788; 1845, 29,97[illegible]; 1846, 34,540; 1847, 41,052; 1848, 40,962; 1849, 43,398; 1850, 38,423; 1851, 36,376; 1852, 45,335; 1853, 34,870.

A progressive increase in the number of cases of yellow fever admitted into the Charity Hospital is observed from 1822 to 1858. Thus, if a period of ten years be compared, the following results will be obtained: Admission in ten years, from 1822-1831, 1984; 1832-1841, 4334; 1842-1851, 6614; 1852-1861, 11,823.

This increase should be referred not so much to a relative increase of the disease, as to the growth of New Orleans and the progressive increase of immigration from European countries, and Northern and Western States, during the forty years from 1822 to 1861, inclusive. Thus during a period of forty years, from 1830 to 1876, 317,286 patients were admitted to the Charity Hospital, and of this number 238,753 were foreigners; 44,119 natives of the United States, outside of Louisiana; and 11,760 were natives of Louisiana.

During a period of thirty years, 1830-1859: total admissions, 260,372; foreigners, 203,946; natives of the United States, 29,664; natives of Louisisiana, 4334.

During a period of ten years, 1864-1868-1876: total admissions, 56,914; foreigners, 34,807; natives of the United States, 14,455; natives of Louisiana, 7426.

It is clearly shown by these statistics that the effects of the American civil war, and the subsequent destructive and hostile legislation during the following ten years, were to diminish emigration from foreign countries and at the same time to impoverish the natives of Louisiana, who, in thirty years preceding the war, furnished only 4332 patients to the Charity Hospital, out of a total of 260,372; and who in ten years, including 1864, 1868, 1869, 1870, 1871, 1872, 1873, 1874, 1875 and 1876, furnished 7426 patients, out of a total of 56,914 admissions.

From the preceding facts, we draw the following conclusions:

1. The increase in the number and extent of the epidemics of yellow fever in New Orleans has been intimately associated with the accumulation of unacclimated human beings in the city, and with the increase of commerce and in consequent crowding, and the accumulation of filth and crowd-poison in ships, and in badly constructed and badly drained and policed habitations.

Yellow fever is not necessarily the outcome from the causes and conditions stated in Proposition No. 1, for it has been frequently absent as an epidemic even in the city, when all these conditions existed; and in like manner it is unknown in and around the Asiatic countries, where all the supposed factors for the generation of yellow fever exist.

3. Periods of great movements of population are periods of great danger to the maritime cities of the coast of the Gulf of Mexico; consequently, eternal vigilance should be exercised by those charged with the execution of sanitary and quarantine laws.

4. As the poison of yellow fever can be conveyed by ships and railroad cars, the vigilance of the health authorities of New Orleans should never be abated; but it should be especially manifested at such time as the city becomes filled with unacclimated material. When the city is crowded with strangers and immigrants from regions in which yellow fever usually prevails, the introduction of the disease by ships may act as the match to the magazine.

5. The stationary condition of the population of New Orleans argues well for the future exemption of this city from sweeping epidemics.

The population of the city is evidently sufficient for all the needs of commerce, but it needs application and direction to the more useful branches of manufacture and labor, as ship building, cotton, jute, paper and other branches of manufacturing industry. The idle and dissolute might thus be utilized to the suppression of vice and crime, and the advancement of the city and State.

6. By its geographical position; by its peculiar topography; situated upon a low, alluvial, badly drained, swampy plain; surrounded by large bodies of water; by the exposure of an extensive river bank, putrid, stagnant canals and marshes; by defective drainage, sewerage and police, and by its hot and moist climate, New Orleans has been peculiarly exposed to the ravages of yellow fever.

Whilst it is the wish of every true patriot to claim all excellencies of position and health for the land of his choice and love, at the same time future advancement of sanitary science, and the highest interests of humanity, demand that all causes of disease, whether existing in the soil or climate, should be honestly stated and fully weighed.

In sanitary science, as well as in disease and the science of medicine the proper remedies or preventives can only be fully appreciated after the comprehension of all dangers and difficulties.

7. It follows, from proposition No. 6, that one of the most essential measures for the improvement of the sanitary condition of New Orleans, is the

thorough excavation and cleaning of the drainage canals. Provided the city continues in its present state of good health, the city authorities should commence the excavation and cleansing of the drainage canals of New Orleans before the end of October, and the work should be continued during the cold months of winter until completion.

It is not just that the filth of the gutters in the front and of the more elevated portions of the city should be perpetually pushed and washed back upon the citizens of the rear, or swamp portions of the city, to choke up the drainage canals with foul black mud. This pernicious practice has been persued for years, until the drainage canals are literally choked up with filth.

I have agitated this question of the thorough excavation and cleansing of the drainage canals of New Orleans, and I shall continue to agitate it as long as they remain in their present condition; and whilst the hot summer months are unsuited for this work, it might have been undertaken last winter, and it should certainly be executed as soon as the weather becomes sufficiently cool.

8. Every system which would look exclusively to the defense of New Orleans from pestilence by quarantine, is vicious and destructive at once to commerce and the best interests of the city, in that it leads to the neglect of those sanitary measures, which will best promote the removal and eradication of the causes of disease, and the removal of those physical conditions which promote the rapid spread of destructive epidemics.

Quarantine, to be effective, must be efficient and thorough.

Justice to the commercial community demands that rigid rules as to the length of quarantine should be fixed by legislative enactment.

According to the existing laws of Louisiana, the funds derived from quarantine should legally be devoted to its maintenance, and should not be diverted to pay either the Sanitary Police or Sanitary Inspectors, the salaries of whom, according to the legislative acts of 1870 and 1877, are directly chargeable to the city of New Orleans.

An advance in the quarantine system of Louisiana will be effected by the thorough equipment of the Rigolets and Atchafalaya stations, and the construction of a capacious and well-ventilated floating hospital for the harbor of New Orleans, to which all contagious and infectious diseases occurring amongst the shipping could be immediately transferred. It is not right that cases of small-pox, typhus and yellow fever, should be carried from the shipping into the heart of a great city, as has been the case in former times. There is no remedy for this evil but the establishment and thorough equipment of a floating hospital, and the employment of a competent physician at a liberal salary to take charge of it, and to be on duty at all times.

This measure should be supplemented by the appointment or employment of a competent, experienced physician, whose sole duty shall be the continuous inspection of the shipping and the prompt removal of all infectious diseases to the floating hospital. To the accomplishment of these important results, the Board of Health of the State of Louisiana should devote its energies and those resources which the State has allotted to the maintenance of quarantine and the protection of the State from foreign pestilence.

9. The results of the quarantine and sanitary operations of 1880 and 1881, demonstrate that it may be possible to institute at once a just and enlightened system of quarantine and hygienic rules among the agents and in the vehicles of commerce, and an enlarged and progressive system of sanitation, embracing thorough drainage, abundant water supply, rapid and efficient removal of all excrementitious matters, and the proper elevation and construction of well ventilated and thoroughly policed houses.

RELATIONS OF FEVERS TO DRAINAGE—MALARIAL FEVERS.

SANITARY MEASURES RECOMMENDED BY THE PRESIDENT OF THE BOARD OF HEALTH.

The relations of fevers, and more especially of malarial fevers to drainage; the great injury inflicted upon New Orleans by the systematic neglect of the drainage, as well as the sanitary measures best adapted to overcome the difficulties and evils of soil and climate, will be illustrated by the following letters addressed to his honor the Mayor of New Orleans, November 14 and December 9, 1881.

OFFICE BOARD OF HEALTH, STATE OF LOUISIANA,
State House, New Orleans, November 14, 1881.

His Honor Joseph A. Shakspeare, Mayor of the city of New Orleans:

Dear Sir— In accordance with section 4 of Act No. 80, "An act to reorganize and render more efficient the Board of Health of the State of Louisiana," approved April 20, 1877 (a copy of which marked A is hereunto annexed), and in accordance with a resolution of Col. I. N. Marks, adopted unanimously by the Board of Health at the regular meeting held November 10, 1881, as follows:

"*Resolved*, That the estimate and statement of the President of the Board as to the receipts and expenditures of the Board of Health for 1881, and the sums necessary for the conduct of the sanitary affairs of the city of New Orleans for 1882, be accepted and endorsed, and that the President be requested to transmit the same to the honorable, the Mayor and Administrators of the city of New Orleans."

I have the honor to transmit to his honor, the Mayor, and to the honorable the Administrators of the city of New Orleans, the following:

1. Statement of sums necessary for the maintenance of the quarantine and sanitary operations of the Board of Health during the year 1882.

2. Estimated and actual receipts and expenditures of the Board of Health for the year 1881.

The said estimates in accordance with the requirements of section 4, Act 80, of the General Assembly of Louisiana, approved April 20, 1877, have been sworn to and subscribed before Oscar Drouet, Esq., notary public, on the twelfth day of November, 1881.

The attention of your honor, and of the honorable the Administrators of the city of New Orleans, is most earnestly and respectfully requested and directed to "the estimate of expenditures for the conduct of the sanitary affairs of the city of New Orleans for 1882, under the direction of the Board of Health."

It will be seen that the sum which the Board of Health requires for the conduct of the sanitary affairs of the city of New Orleans, including the pay of Sanitary Inspectors, and the cost of disinfectants for the entire city, is $16,422 50 (sixteen thousand four hundred and twenty-two dollars and fifty cents).

This would be at the average rate of about five cents (or more accurately, 5.2) per inhabitant.

The cost to the city of an epidemic of yellow fever has been estimated at not less than $15,000,000 (fifteen millions of dollars).

The estimate which the board now submits for the conduct of the sanitary affairs of the city of New Orleans, is not more than the thousandth part of the cost of a single epidemic of yellow fever.

In the conduct of the sanitary affairs of New Orleans, the organic acts of the Legislature of Louisiana (see sec. 1 of an act supplementary to an

act entitled "An act relative to quarantine," approved March 18, 1858; also, sec. 2 of an act to amend "An act to establish quarantine for the protection of the State," approved March 16, 1870; also, sec. 5 of Act No. 80, "To reorganize and render more efficient the Board of Health of the State of Louisiana," approved April 20, 1877; all hereunto annexed, and marked respectively B. C. and D,) have made the honorable Mayor and Administrators of the city of New Orleans responsible not merely for the prompt supply of the necessary funds for the payment of the Sanitary Inspectors, and for the purchase of the necessary disinfectants, but also for the detail of the necessary police for the proper and regular execution of the orders of the Board of Health.

Accordingly, the Board of Health respectfully urge the honorable Mayor and Administrators of the city of New Orleans to detail, for the execution of the sanitary orders of the Board of Health for the preservation of the city from pestilence and infectious diseases, the seventeen policemen and eight carts with their drivers and teams.

Upon the action of the honorable the Mayor and Administrators of the city of New Orleans, in providing the necessary means for the payment of the Sanitary Inspectors and in furnishing the necessary police, and the necessary disinfectants and the carts for their distribution, depends in a large measure the sanitary condition of New Orleans, and the health and commercial prosperity of her citizens.

New Orleans has no system of sewers; the excrement from the 210,000 inhabitants, and from the strangers that constantly crowd her streets, must be removed by hard manual labor.

It is horrible to contemplate the effects of hoarding up this vast accumulations of human filth in this damp, hot, semi-tropical climate.

In the present condition of New Orleans, this only method of dealing with this gigantic evil, which is a constant menace to the health and comfort of the people, is to clean the privies by mechanical means—by well devised odorless apparatus—and to keep them continually disinfected by cheap and reliable disinfectants, accessible to all at the lowest prices.

The constant and systematic removal of the human and animal excrement, as well as the maintenance of a good sanitary condition of all private premises, must be based upon *systematic house to house inspection.* Thorough inspection and thorough attention to domestic sanitation requires intelligent, faithful and honest sanitary policemen, subject to rigid discipline by the legal authorities.

The prompt fulfilment of these important requisitions of the Board of Health by the honorable Mayor and City Council, will establish the fullest confidence in surrounding communities, and will promote the highest and best interests of the city and State, in protecting foreign and internal commerce from unnecessary quarantine, and above all in protecting the lives and promoting the health of the people.

With great respect and high esteem, I have the honor to remain, your obedient servant,

(Signed) JOSEPH JONES, M. D.,
President Board of Health, State of Louisiana.

RELATIONS OF FEVERS, AND ESPECIALLY MALARIAL FEVERS, TO DRAINAGE—CLEANLINESS AND DRAINAGE OF PARAMOUNT IMPORTANCE TO THE CITY OF NEW ORLEANS.

Hon. Joseph A. Shakspeare, Mayor of the city of New Orleans:

Dear Sir—The following facts, illustrating the importance of the immediate attention to the cleaning out of the drainage canals of this great

city, which holds within its borders one quarter of a million of people, and represents a large portion of the wealth and intelligence of the State of Louisiana, and commercially occupies the gateway of the Mississippi Valley, are respectfully submitted.

DRAINAGE CANALS OF NEW ORLEANS.

From the following tabulated statement, it will be seen that the drainage canals within the populated portion of the city, bounded by Metairie Ridge, extend 118,915 feet, or 22.5 miles in length:

NAME OF CANALS.	FEET.	
	Width.	Length.
FIRST DRAINAGE SECTION.		
Galvez, from New to Old Canals	25	5100
Broad, from New to Old Canals	20	4500
Hagan, from New Canal to Draining Machine	60	4200
Carrolton, from New Canal to Orleans street	20	5800
Claiborne, from Canal street, to Canal Carondelet	6	1820
Carondelet, from Claiborne street to Draining Machine	20	6750
Poydras, from Galvez to Broad street	20	2150
Tail race from Draining Machine to Metairie Road	25	6100
SECOND DRAINAGE SECTION.		
Dublin, from Tenth street to New Canal	40	5815
Claiborne, from Dublin street to New Canal	40	15850
Tail race from Dublin street to Upper Line Canal	25	4850
Tail race of Melpomene Draining Machine	25	10450
Camp, from Felicity Road to Clio street	15	2600
Melpomene, from Camp to Dryades street	15	2300
Melpomene, from Dryades street to Draining Machine	25	3800
THIRD DRAINING SECTION.		
Claiborne, from Canal Carondelet to Elysian Fields	15	6400
Broad, from Canal Carondelet to London Avenue	25	8480
London Avenue, From Broad street to Draining Machine	40	2400
Orleans, from Claiborne street to Bayou St. John	25	6450
St. Bernard, from Claiborne to Broad street	25	4300
Claiborne, from Elysian Fields to Poland street	8	8800
Total lengths of canals		118915
Or 22.52 miles.		

Outside of these limits, the length of the canals amounts to 12.5 miles more, making a total of about 35 miles.

An inspection of the canals reveals the following important facts:

1. The various sections of the drainage canals of New Orleans are uniform neither in breadth nor depth. Such variations induce marked deviations in the currents and in the deposits contained in these canals, and promote the accumulation of filth at the bottom and the constant existence of foul and stagnant water.

A moment's consideration will show that the drainage canals should be uniform in depth; and without such uniformity the entire system is imperfect, and a constant menace to the public health.

The Claiborne canal, in the upper districts, which was originally seven feet in depth, is said to have been dug out several years ago to the depth of fourteen feet, and now acts as a reservoir of the foul, stinking waters of the more shallow canals.

2. Examination and measurement shows that there is a mud deposit in all these canals, varying in depth from four to eight feet. Fermentation and the evolution of foul gases is constantly going on in this immense mass of filth, accumulated from the gutters and open sewers and from the streets of this city.

Every known or unknown combination and product of the putrefaction of vegetable and animal matter can be found in these foul reservoirs, which should more truly be termed "cloaca."

3. The drainage canals of New Orleans, unless thoroughly excavated and graded upon mechanical principles, and kept constantly flushed with fresh water, become nothing more nor less than receptacles of putrefying animal and vegetable matter of the most deleterious character to the health of the citizens of New Orleans.

4. The drainage machines do not fulfill their capacities, as there is a necessity during the warm and hot months of spring, summer and autumn, to keep a layer of two or three inches of water upon the foul deposits of the canals, to prevent the rapid evolution of the foul gases resulting from the direct action of the sun.

5. It is not just perpetually to wash the filth of the front and more elevated portion of the city back upon the unfortunate inhabitants of the rear or swamp portions of the city, who, in virtue of the declination of the plane upon which New Orleans is built toward the lake, are perpetually exposed to this nuisance.

THE REMEDY.

The immediate and thorough excavation of the drainage canals.

The proper grading of the drainage canals.

The constant supply of fresh water to the drainage canals after their thorough cleaning.

THE TIME.

Now is the time for the inauguration and rapid prosecution of this work.

Work should be, if possible, commenced by large bodies of men upon all the canals under the direction and control of the constituted authorities, namely the honorable Mayor and Administrators.

The warm months of spring and the hot months of summer and autumn are manifestly improper for such excavations, but December, January and February are well adapted to this work. The offensive mud should be disinfected if necessary with quick-lime and copperas, and if practicable should be removed out of the habitable limits.

If the funds of the city are inadequate let the plan of operations be fully explained, and the tax-payers of the city will without doubt countenance this most important of all sanitary works for the protection of their health, the improvement of their property and the enlargement of the commerce of New Orleans by establishing its reputation for health upon a firm basis.

SHIP CANAL CIRCUMVALLATING THE CITY OF NEW ORLEANS.

This scheme, originally advocated several years ago by Prof. Fontaine, has been revived by certain professional journalists, and is without doubt worthy of the consideration of the National Government, and sufficiently grave in its nature to require for its proper execution the national resources.

Whatever may be done in the future, it is evident that the dangers and the needs of the present are absolute, and cannot with safety be neglected.

The digging of a canal extending in the form of a bow entirely around the city of New Orleans, from above Carrollton to below the present limits of the parish of Orleans, sixteen miles in length, three hundred feet in width, and sixty feet in depth, will require years for its completion, and will demand millions for its execution.

Whatever system of sewerage or of drainage may in the future be adopted, the storm-waters and surface drainage of New Orleans must be provided for, and the surrounding great canal will facilitate the speedy evacuation of the drainage canals on both sides, if the proper machinery

be used during the stages of high water; but it can under no circumstances abolish the uniform operations of nature with regard to rainfall and the periodic elevations or depressions of the Mississippi river.

The annual rainfall of New Orleans varies from forty-two to seventy-two inches—that is, from three and a half to six feet. In a wet year, the drainage canals must remove from the fifty-five square miles of this city a volume of water equal to that contained by a lake fifty-five square miles in extent and six feet in depth. This water is storm water, thrown from the heavens above, and does not include the vast quantities of water used by manufactories, for household purposes, for the extingishment of fires, for the watering of the streets, and for the flushing of the gutters. Under any system of drainage, these waters must have the fullest possible exit out of the limits of the city. In this hot, moist climate, stagnant water loaded with exuviæ of man and animal, means putrefication, disease and death.

DIFFICULTY OF ESTABLISHING A CORRECT SYSTEM OF DRAINAGE IN THE AREA OCCUPIED BY THE CITY OF NEW ORLEANS.

In the city of New Orleans, bounded by the Mississippi River, which has truly been compared to an inland sea, on the one side, and on the other by extended marshes, lakes, swamps and lagoons, and in high water lying far below the line of the surrounding waters, the question of drainage, sewage and sanitation have been of the most difficult and complicated character, and from her earliest history sanitary measures have engaged the earnest and intelligent care of her rulers and medical faculty.

In the year 1727 the land on which New Orleans stands, not being protected by an adequate levee, was subject to annual inundations, and was a fearful quagmire, presenting no better aspect than a vast sink or sewer, and Gov. Perrier announced his intention to cut a canal from New Orleans to Bayou St. John, in order to open a communication with the sea through the lakes.

Gov, Perrier, in 1727, mentions the arrangements which he had made with the inhabitants, in relation to the negroes which were to execute this work, which was actually begun, but to which subsequent events put a stop.

Thus it is to be seen that the plan of the canal which now bears the name of "Carondelet," did not originate with the Spanish government.

On the ninth October, 1796, Baron de Carondelet completed the canal which carries off the waters of the city and its environs into one of the branches of Bayou St. John, which relieved the ditches surrounding the ramparts and the stagnant pools within and around the city, of the putrid waters which produced those epidemics which were so fatal to its prosperity.

Thus "drainage," the great sanitary problem of New Orleans, engaged the attention of its governors for sixty years before the practical and valuable experiment of Baron Carondelet. The drainage of the city was still further improved by the labors of the "Canal and Banking Company," and subsequently to the civil war by the Mexican Gulf Company. That New Orleans has been rendered more salubrious by these labors will be demonstrated by the following statistics:

TOTAL NUMBER OF CASES AND DEATHS OF THE VARIOUS FORMS OF FEVER TREATED IN THE CHARITY HOSPITAL DURING A PERIOD OF THIRTY-FOUR YEARS.

DISEASES.	Eighteen years preceding the civil war—1846 to 1860.			Sixteen years following the civil war—1864 to 1880.			Total for thirty-four years—1842 to 1880.		
	Cases.	Deaths.	Per ct	Cases.	Deaths.	Per ct	Cases.	Deaths.	Per ct
Yellow Fever	16,073	8,081	50.2	3,160	1,568	49.6	19,233	9,667	58.2
Typhus Fever	7,220	1,301	18.0	2	2	100.0	7,222	1 303	18.0
Typhoid Fever	3,144	983	31.2	377	180	47.7	3,521	1,163	38 0
Dengue Fever	481	.....	.....	155	.....	.....	636	.....	.....
Nervous Fever	50	13	26.0	1	.....	.....	51	13	25.4
Adynamic, or Ataxic Fever	27	4	14.8	.....	.....	.....	27	4	14.9
Ephemeral Fever	560	.....	.....	3	.....	.....	563	.....	.....
Continued Fever	1,020	75	7.3	70	13	16.4	1,099	88	8.0
Catarrhal Fever	97	.....	0.0	19	1	5.2	111	1	0.8
Gastric Fever	111	3	2.7	.....	.....	.....	113	3	2.7
Remittent Fever	13,157	266	2.0	2,204	145	6.5	15,361	311	2.0
Intermittent Fever	53,789	53	0.01	20,881	75	0.3	75,670	128	0.1
Congestive Fever	952	584	50 9	266	214	80.4	1,218	699	57.3
Pernicious Fever	346	221	63.0	132	99	75.0	478	320	66.9
Malarial Fever	.....	.....	.....	6,251	636	10.1	6,251	636	10.1
Malarial Poisoning	.....	.....	.....	431	50	11.6	431	50	11.6
Malarial Cachexia	5	1	20.0	90	7	7.7	95	8	8.4
Typho-malarial Fever	.....	.....	.....	117	66	56.4	117	66	47.8
Other Fevers	120	15	12.5	15	5	33.3	135	20	14.8
Total from all diseases	207,356	29,614	14.2	96,857	14,104	14.5	304,213	43,718	14.3

It will be observed that during the period of thirty four years, 132,332 cases, with 15,480 deaths, of the various forms of fever, were treated in the Charity Hospital.

If the cost of treatment of each case to the State be placed at the low figure of $20, then Louisiana expended during these thirty-four years, $2,646,700 for the treatment of fevers alone—a sum sufficient to have thoroughly drained and sewered the whole territory.

DEATHS FROM THE VARIOUS FORMS OF FEVER IN THE CITY OF NEW ORLEANS DURING A PERIOD OF THIRTY-FOUR YEARS.

DISEASES.	Nineteen years preceding the civil war 1844 to 1865 Number of deaths.	Fifteen years following the civil war, 1866 to 1880. Number of deaths.	Total thirty-four years, 1844 to 1880.
Small-pox and varioloid	1,856	3,870	5,726
Measles	760	829	1,589
Scarlatina	1,575	491	2,066
Dengue	6	15	21
Typhus fever	1,220	102	1,422
Cerebro-spinal fever	135	237	371
Enteric, or typhoid fever	2,686	1,034	3,720
Simple continued fever	189	223	407
Yellow fever	20,348	8,393	28,739
Gastric fever	3	16	19
MALARIAL FEVERS:			
Intermittent fever	454	467	921
Remittent fever	503	796	1,299
Congestive fever	2,871	3,466	6,337
Typho-malarial fever	8	185	93
Malarial (unclassified)	2.338	1,409	3,747
Total	.....	.....	56,478

Deaths from cholera, cholera morbus and cholera infantum in New Orleans during a period of thirty-four years, 1844 to 1880: Cholera, 11,847; cholera morbus, 889; cholera infantum, 2408. Total, 15,144.

Deaths from enteritis, diarrhœa and dysentery in New Orleans during a period of thirty-four years, 1844 to 1880: Enteritis, 6915; diarrhœa, 8289; dysentery, 7097. Total, 22,301.

Deaths from phthisis-pulmonalis in New Orleans during thirty-four years, 1844 to 1880, 24,071.

Total deaths in New Orleans during thirty-four years, 1844 to 1880, from all causes, 242,426.

From the preceding statistics we gather the following general (results) conclusions:

1. Fevers appear to be decreasing in frequency and fatality in New Orleans, and such decrease should be referred chiefly to increased drainage and to improved sanitary methods.

2. While fevers of all varieties destroyed in the city of New Orleans 56,478 citizens in thirty-four years, yellow fever destroyed only one-half of this number, namely, 28,739; and nothwithstanding the fact that only about one-half of the mortality from fever in New Orleans during the period specified was due to yellow fever, the attention of the entire Missis sippi Valley is directed to this disease, and it is sought to impose immense burdens upon the citizens of the United States for the support of a cumbrous and expensive system of railroad and steamboat inspection, whilst the equally destructive and far more prevalent forms of fevers are ignored.

If these fevers be divided into separate groups, the mortality will stand thus:

Total deaths from small-pox, measles and scarlet fever during thirty-four years	9,381
Total deaths from dengue, typhus fever, cerebro-spinal fever and simple continued fever	5,942
Total deaths from yellow fever	28,739
Total deaths from the various forms of malarial fever	12,416

The deaths from the various forms of malarial fever, indigenous to the soil and common to all parts of the great Valley of the Mississippi, were very nearly half as numerous as those caused by yellow fever; congestive fever alone caused 6337 deaths.

It is well established by the records of medicine extending back over 2000 years, that drainage and agriculture are the great and only absolute and certain means of destroying the cause of malarial fever.

If the value of a citizen to the State be rated at $1000, then the city of New Orleans has lost during thirty-four years $56,478,000 by fevers alone. Other diseases, however, whose existence and propagation are largely dependent upon defective drainage have been busy in the work of destruction.

Thus during the thirty-four years specified phthisis pulmonalis destroyed nearly as many citizens as yellow fever, namely: 24,071; enteritis; dysentery and diarrhœa 22,301; and cholera, cholera morbus and cholera infantum 15,144.

Total from phthisis pulmonalis and bowel affections, 61,616.

These diseases, which are common to the entire valley, count 61,616 deaths, exceeding those by fevers 5138.

Without doubt, a large proportion of the deaths from phthisis pulmonalis and bowel diseases are preventable and directly referable to defective drainage.

Fevers. bowel affections and phthisis pulmonalis alone caused in New Orleans 118,094 deaths in thirty-four years, out of a total of deaths from all causes of 242,426.

We may therefore affirm that nearly one-half of the deaths in New Orleans during the past thirty-four years (118,095) were caused by preventable diseases, the remedy for the diminution of the same being effective drainage.

From these diseases New Orleans has lost in thirty-four years, according to reliable data $118,094,000 (one hundred and eighteen million ninety-four thousand dollars).

In conclusion, extended and valuable experience has convinced your Honor, that no city in the world has suffered more obliquy than New Orleans in relation to health, and more especially in regard to its epidemics of yellow fever, and however devoid of sanitary laws and hygienic regulations, and however filthy and neglected the towns and cities situated within the valley of the Mississippi and its tributaries have been in past times, they have ever sought to lay their own devastating epidemics at the door of this great commercial centre.

The rapidly advancing millions of the great valley look with increasing interest upon the sanitary condition and quarantine laws and regulations of New Orleans.

It will not be beyond the bounds of truth to affirm that, but for the American scourge, New Orleans, even at this day, after the ravages of civil war and the ruthless plundering of her hostile rulers, would have exceeded every other city of America as well in the magnitude of her imports as her exports. The opening of the great state of Texas to railroad trade and traffic, and the vast movement of grain and cattle inaugurated, inspire all good and true citizens with renewed hopes of a brighter future, and solemnly warn those who are charged with the sanitary and quarantine interests of this great city and fertile State that the welfare of millions may be involved in their action.

If, by the application of all the facts known to science, the sanitary condition of New Orleans can be so improved as to exclude yellow fever, it is not unreasonable to believe, when we consider the extent and extraordinary fertility of the basins of the Mississippi and Missouri, that New Orleans is destined to become the great emporium, not of America only, but of the world.

Even at this present day she holds commercial relations with almost every maritime nation and large city of the globe; and, as the representative and port of this mighty valley, her health and prosperity are not merely national but cosmopolitan.

With great respect, I have the honor to remain your obedient servant,

JOSEPH JONES, M. D.,
President Board of Health, State of Lousisiana.

The first and most solemn duty of the State and Municipal governments is to secure the people from overflow, and to enlarge and perfect the drainage of New Orleans.

Such important works should be conducted upon a general and practical plan, and the highest engineering talents should be employed.

During the past four years I have advocated the view that the protection from overflow and the drainage of New Orleans should be confided to General G. T. Beauregard. It is well known that the distinguished engineering services of General Beauregard protected Charleston and Savannah from the powerful fleets and armies of the North, and that his defense of those and other Confederate towns, opened a new chapter in the history of defensive warfare. At my earnest request General Beauregard, permitted the reproduction in this connection of his valuable report on the drainage of the First Drainage District.

NEW ORLEANS, MARCH 2, 1884.

Dr. Jos. Jones, New Orleans.

My Dear Doctor :—I have found at last, my report and estimate of the "proposed system of drainage for the First Drainage District of New Orleans," made in 1858, and which I had promised you; but I could not find it until this morning. As it is the only copy I have left, I beg you to be careful with it. I am, yours very truly,

G. T. BEAUREGARD.

REPORT ON PROPOSED SYSTEM OF DRAINAGE FOR FIRST DRAINAGE DISTRICT, NEW ORLEANS—BY MAJOR G. T. BEAUREGARD, CHIEF ENGINEER. NEW ORLEANS, DEC. 26, 1858.

NEW ORLEANS, December 26, 1858.

To the Board of Commissioners of the First Draining District, New Orleans:

Gentlemen—I have the honor herewith, to submit for your approval the following report and estimate, relative to the best method of draining the First Draining District of this city, as defined by the Legislative Act of March 18, 1858. On this important subject a very elaborate treatise might be written, but I have thought it best to confine myself to the leading points embraced in the investigation, in order to make my report as concise as practicable.

Two systems offer themselves to our consideration for attaining an object so desirable and important to the health and prosperity of our city.

1. The system of *Colmates*, adopted principally in Italy, which consists in successive overflows from the waters of any sedimentary stream contiguous to the land to be drained, by which operation its soil is gradually raised until sufficiently elevated to carry off naturally by means of surface ditches, the rain water which may fall upon it.

2. The system of *Polders*, adopted in Holland, or where no sediment bearing streams are at hand, and which consists in dividing into sections, by means of canals and levees, the land to be drained, and removing the waters therefrom artificially with "turbines," or screw pumps, water wheels or suction pumps, set in motion by the wind or by steam.

It is evident that when circumstances will favor it, the first of these two systems is to be preferred, on account of its economy, and healthiness to the locality thus reclaimed, and is the one best adapted generally, to reclaim the swamp lands contiguous to the Mississippi River; but after mature consideration, I have concluded, that it cannot be applied to those in rear of the First Draining District, on account of the great cost and long time it would require to derive any material benefit from the deposit; hence we are constrained to the best application of the second or Holland system.

By examining the topographical map of the environs of this city, made by E. H. Springbett and L. Pilié, in 1839, it will be seen that Bayou St. John is the natural outlet to the lake, of the waters of the whole of the first part of the Third Draining Districts, said bayou occupying nearly the central line between the new canal on one side, and Esplanade street, Bayou Sauvage or Gentilly-ridge and Pontchartrain railroad embankment on the other, the area thus enclosed draining naturally towards Bayou St. John; hence it is a matter of great surprise, that when the charter of the Navigation Company was about expiring, advantage was not at once taken of this natural and economical method of draining perfectly the whole of said area, by reserving the Old Basin, canal and bayou, entirely for draining purposes, as by the establishment of a judicious system of flood or sluice-gates, and several large draining wheels at the mouth of the bayou; the water in the latter could always have been kept, even during the heaviest rains, several feet below the general surface of the contiguous swamps, which could then have been made to drain at once into this natural reservoir, merely by the construction of a few secondary canals cut perpendicular to the general direction of the bayou, intersected at right angels by smaller canals or ditches, so as to carry the waters of the intermediate areas into the larger canals, and from thence into the bayou or main reservoir.

The average level of the swamp lands referred to, being about 2′ 6″ above ordinary low water, the bayou could generally be drained to that level, by the sluices of flood-gates at its mouth, and the additional quantity of water could be taken off by the draining engines, thus obtaining a great economy of fuel whenever the tides in the lake would permit. By having a covered drain in Basin or Claiborne street, the waters of that part of the city lying between either of said streets and the river, could be drained at once into the Old Basin or canal, and would be thereby cut off from the lower levels, in the rear of said streets, without having as now to flow over one mile before reaching the draining engine, at the lower extremity of Hagan Avenue.

Such a system of drainage would have been economical, perfect in itself, and easily carried into execution, so that what is now swamp-land of an impassable character, would have become in less than four or five years from the starting of the project, high lands, as available for cultivation and building purposes, as any to be found along the banks of the river. We would soon after have seen magnificient summer residences and gardens of all dimensions, wharves and landings, constructed along the lake shore, from the New Canal to the Pontchartrain railroad, and the whole area from the lake to the river intersected with shelled avenues and street railroads, and the active commerce of the city would soon have extended from the river to the lake. The health of the city would also have been materially improved, not only from the perfect drainage of its site, but by the lake breezes, which would have swept over it, unaccompanied by the miasmas,

which are constantly generated in the swamps intervening between it and the lake; and to which may, no doubt, be greatly attributed, the yearly epidemics which decimate our population, and spread terror and dismay amongst our non-acclimated citizens.

I would respectfully recommend that a strong effort should be made to carry into operation this system of drainage, which I consider far superior in every respect to any other I could suggest.

Accompanying this report, however, is a sketch showing the other plan proposed by me, and which I guarantee, if carried faithfully into practice, will also drain thoroughly the whole of the First Draining District, which I have divided off into *six* separate sections—each one provided with its requisite canals, ditches, and draining-engines—for it is evident that the latter can only perform a certain amount of work in a given time, to which must be proportioned, the area to be drained, and the canals and ditches required to conduct the water freely and continuously to the draining-wheel, the latter being situated in as central a position as circumstances will permit; and it is equally evident that two engines, of a certain power each, placed in one locality, will not do the work as quickly, effectually and economically, as if the area to be drained was subdivided into two equal parts, and these engines placed in the most favorable position to drain each section separately; for, in the first place, larger and more costly canals would be required to convey the waters to the engines, or the land contiguous to them would be drained almost immediately, and they would then have to be stopped or worked to disadvantage, while the lands more remote would still remain for several hours under water. Again, our swamp-lands being almost on a dead level, they require to be cut up into as many small sections as practicable, by small ditches leading into larger ones, these into small canals, the latter into larger ones, and finally, these last, into the main canal or reservoir, conducting the waters directly to the draining-engine.

The whole area of the First Draining District is 5,518.3 acres, but the part actually to be drained will measure about 5,430¼ acres, which have been divided into six *polders* or sections, as follows:

1. From the river to Galvez street Canal, about ..... 833¼ acres.
2. " Galvez street Canal to the Metairie Bayou ..... 1,385 "
3. " Metairie Bayou to half the distance to the lake, included between Bayou St. John and the discharge Canal, along Orleans street, about ..... 803 "
4. " The latter to the New Canal, and corresponding to Section 3, about ..... 803 "
5. " Section 4, to Lake Pontchartrain, and from the New Canal to the discharge Canal in Orleans street, about ..... 803 "
6. " Section 3, to the lake, and from the discharge Canal on Orleans street, to Bayou St. John, about ..... 803 "

Total ..... 5,430¼ "

An important principle in draining is, that with a sufficiency of canals, the power of the engine and the proportions of the wheel should be such as to carry off the rain and filtration waters as fast as they fall or accumulate, under the most unfavorable circumstances, upon the area to be drained. Thus when the soil is already saturated, and six inches of rain fall in twenty-four hours, (which occasionally occurs in this latitude), 945 pounds of water per acre from that source alone, or about 1,000 pounds (16 cubic feet, 120 gallons, about) from all sources, would have to be removed per minute; and if we take six feet as the ordinary lift to which that water has to be raised, we will then obtain the followings results for each of the sections to be drained:

NO. OF SECTIONS.	Area in Square Acres.	No. of gallons of water to be drained per minute.	No. of cubic feet of water to be drained per minute.	No. of pounds of water to be drained per minute.	No. of Horse power to raise the water six feet high.	No. of Horse power of engine required.	Diameter of cylind'r in inches.	Strokes per minute.	Diameter of pinion.	Diameter of spur-wheel.	Diameter of draining wheel.	Pressure of steam.	Area of buckets of wheel.	Revolutions of draining wheel per minute.
									ft. in.				FEET.	
1	833.25	99.990	13.332	833.250	151.50	202.00	19.65	60	2 23-5	19 ft	36 ft	100	35.65	3.5
2	1.385.00	166.200	22 160	1385.000	251.82	335.76	25.32	....	.....	....	....	....	59.25	.....
3	835.00	96.360	12.848	803.000	146.00	194.66	19.30	....	.....	....	....	....	34.40	.....
4	803.00	96.360	12.848	803.000	146.00	194.66	19.30	....	.....	....	....	....	34.40	.....
5	803.00	96.360	12 848	803.000	146.00	194.66	19.30	....	.....	....	....	....	34.40	.....
6	803.00	96.360	12.848	803.000	146.00	194.66	19.30	....	.....	....	....	....	34.40	.....
	5.430.25	651.630	86.884	5.430.250	987.32	1316.40								

The above engine and wheels are calculated to raise 39,097,800 gallons of water, six feet high per hour, and should be so arranged as to drive out the water under ordinary circumstances, and to *lift* it over the height of the levees in severe and long continued northerly storms, which backs up the waters of the lake several feet outside of those levees.

The last four sections are not exactly of the same area as represented in the above division, but the difference between them being slight, has been neglected without effecting the general results of this Report. Whenever the work comes to be executed, their precise areas, etc., can be determined with acurracy.

The first two sections comprise now, but *one*, and that very imperfectly drained by two wheels of different sizes, placed at the intersection of Bayou St. John and Hagan avenue, one of 35 feet 4 inches, diameter, 6 feet 2 inches wide, and the other 29 feet 3 inches, diameter, 4 feet 5 inches wide.

The cubic contents of the draining canals at present in use in these two sections, exclusive of gutters and small ditches, are as follows:

For the first Section, 473,400 cubic feet, or 568 1-7 cubic feet to one acre.

For the second Section 2,907,000 cubic feet, or 2,099 cubic feet to one acre, which is indeed a very small proportion, altogether too small for perfect drainage; then the two engines and wheels are placed together in one locality, which exposes them to destruction by an explosion of boilers or by fire, as has lately taken place. But as they are being repaired and put in good order, they can at present be allowed to remain where they are, for the sake of economy. Another great objection to the present system is, that a part of the area drained, having a fall from the river ridge to Rampart street of 5 feet 9 inches, and from thence to Claiborne street of 2 feet 8 inches, the rest being nearly level, it follows, that the waters of the higher lands are precipitated at once upon the lower levels, where they remain until removed by the above draining engines, which being very far off (nearly 1½ mile) from the foot of the slope, and not provided with a sufficiency of "conduits" or canals, perform their work very slowly; indeed, I am informed, as should have been anticipated) that these lands remain sometimes thus submerged several days, to the injury of residents who live upon them, and to the detriment of the health of the city. (*See note at bottom of page.*) Whereas, if another draining engine of proper power had been erected near the intersection of Galvez street canal and Old Canal, as I now propose, increasing the dimensions of the former, so as to answer the purposes of a reservoir, and a discharge canal had been made along the old canal, falling into the head of Bayou St. John, near the site of the present draining engine, the waters of the higher lands would have been removed at once, or as fast as they would have accumulated into said reservoir, and the low lands below the latter, being separated from it by small levee or an elevated street, would have been drained at once of their own waters, by the engine at the head of Bayou St. John, particularly if section 2 had been better provided with small canals, leading into the existing ones, as marked in dotted lines on the accompanying sketch. We would then have had for each of these two sections the following cubical contents of canalling exclusive of gutters and small ditches.

For first Section, 1,037,400 cubic feet, or 1,245 cubic feet to one acre.

For second Section, 5,038,000 cubic feet or 3,637½ cubic feet to one acre.

But I am informed that the present Carondelet Navigation Company objects to the city draining into Bayou St. John, because the waters thrown into it, containing a great deal of sedimentary matter, tend to obstruct the navigation by muddy deposits immediately below the site of each engine. This is probably so, but it is an obstacle which can be easily removed at little cost to the city. This company, however, does not seem to be aware of the immense injury which would result to said bayou by excluding from it entirely all the waters of the first and third draining districts, which naturally flow into it and maintain its present depth; for it is a natural law of all streams in alluvial soils, that their regimen or cross-section is proportioned to the quantity of water which passes through them. If we divert or exclude from them any portion of said water, their depth and width will gradually accommodate themselves to this diminution. Thus, before the construction of the new canal, which cut off the head-waters of Bayou Metairie, the latter was several feet deeper than at present—being now nearly dry in many places. Bayou Gentilly is filling up gradually from a similar cause; Bayou Terre-aux-Bœufs was once navigable for skiffs and canoes to the river, whose waters then passed through it, but it is now nearly dry in many places for several miles from its source. The same fate, no doubt, awaits Bayou St. John, should the navigation company persists in its

Note on Plantation Drainage.—From the above remarks it follows, that where practicable, when plantations composed of high and low lands have to be drained, the true system is to separate these by a canal and levee, allowing the waters of the high lands to run off along the side lines to the swamp, as to a grand reservoir, and levee-in, the low lands to be drained *separately* and *alone* by the draining engine, otherwise all the waters of the high lands which ought to run off naturally, are precipitated upon the low lands, and must be got rid of artificially, while the low lands are kept much longer under water than they would otherwise remain. Moreover, the engine and wheel have in consequence to be made much stronger, and the canals much larger than are actually necessary.

suicidal policy, and instead of only having a few deposits here and there to contend with, they will have to keep open the whole bayou from its source to its mouth, particularly the latter. I would, on the contrary, advise them by all means to concentrate into that bayou all the waters they could conveniently, and at little expense, get to flow into it.

By a map, in my possession, I find that the area of the other four sections has a slight inclination from the new canal to Bayou St. John, and from the Metairie ridge and lake shore, towards the centre of said area. Along the first of these lines, the ground averages less than 2 feet below the high-water mark of the storm of 1831; along the second, it is about 4 feet 6 inches below it, and along the third it is above said mark, and along the fourth about 2 feet 6 inches below it. In the interior of this area, the ground is generally about 4 feet 6 inches below said level, requiring to be protected from similar storms by levees along the lines referred to, from 1 foot to 18 inches above the highest waters of that storm. These are the considerations which have guided me in determining the dimensions of the levees estimated for. The one along the lake shore being exposed moreover to the waves of the lake in northerly storms, requires in addition to be protected by a strong plank revetment.

The details of these levees, ditches, canals and reservoirs, are given in the accompanying sketch, intended merely to illustrate my report, without regard to the plans of the city extending in that direction, which will, however, have to be followed in the execution of the work. Should it be found necessary hereafter, the surfaces of these sections can be subdivided still more by the construction of additional main and secondary ditches. But it is probable that when the streets and gutters shall have been constructed in that part of the city, none but the main canals or reservoirs will be required for the perfect drainage of each section.

The canals and reservoirs are made gradually to increase in dimensions as their length increases, so as to produce the maximum effect at a minimum cost. I will also remark that, not designing to have any interior ditches or canals immediately next to the exterior levees, no filtration waters, which are generally so troublesome and expensive, need be apprehended, if said levees are kept in good condition. So soon as any of these levees are finished, I earnestly recommend that Bermuda grass seeds or cuttings should be sown on their crest and slopes to protect them from the effects of the sun, rain and high waters of the lake during northerly storms. This grass matting, when thick, as it will soon become, will even prevent weeds and bushes from growing on the levees.

The planting of several rows of sun-flowers (helianthus) along the berms of every canal would, according to Lieut. Maury, U. S. Navy, cause the absorption of the miasmatic gases arising from these canals, when the latter are neglected or not cleaned out, and would remove, if successful, one of the greatest objections to their use in large cities.

The secondary ditches (D) are 4 feet wide at top, 2 feet wide at bottom, and 3 feet deep. The main ditches (C) are 6 feet wide at top, 3 feet wide at bottom, and 4 feet deep. The secondary canals are as follows:

At their beginning,	8	feet wide at top,	4	feet wide at bottom,	4	feet deep.
At their lower end,	12	" " "	6	" " "	6	" "
Averaging	10	" " "	5	" " "	5	" "

The main canals or reservoirs are as follows:

At their beginning, 26 ft. wide at top, 20 ft. wide at bottom, 6 ft. deep.

At their lower end, 36 ft. wide at top, 30 ft. wide at bottom, 6 ft. deep.

Averaging, 31 ft. wide at top, 25 ft. wide at bottom, 6 ft. deep.

They present together, in each section an average cubical content of 2,987,037 cubic feet, or 3,718 cubic feet to an acre.

In order to place the draining sections of the last four sections in the most favorable locality to do their work advantageously, by diminishing as much as practicable the distance the water has to pass over in getting to the draining wheel of each section, it becomes necessary to construct a central discharge canal along the middle of Orleans street (Nelson avenue), to carry off to the lake the discharged waters. Moreover it might be used hereafter for the same purpose for sections 1 and 2, if necessary.

This canal would thus be situated about half-way between Bayou St. John, its dimensions should be such, also, as to furnish the earth required for the protection levees on each side of it, i. e., it should be 36 feet wide at top, 30 feet wide at bottom, and 6 feet deep, its length from the middle point of the line of separation of sections 3 and 4 to the lake would be about 10,250 feet. The foot of the outer slope of those levees must be at least 10 feet from the edges of the canal.

The draining engines of sections 3 and 4 ought to be placed near the upper extremity of that canal, discharging their waters into it. Those of sections 5 and 6 ought to be put, for the same reason, as near to it as practicable, at about the middle distance between the two first sections and the lake. The engines thus placed near each other, two in each locality, will require but one engineer to each set, and can be so arranged as to drain the contiguous sections in case of necessity. But they should be put far enough from each other to be beyond the reach of danger, should one of them be destroyed by fire or by an explosion of boilers.

The entire separation from each other, or, more properly, isolation of these sections by their levees, enables us to complete the draining arrangements of any one of them independently of the others, and, according to the means at our command, leaving the drainage of the others to be commenced and completed as circumstances will permit.

The Board of Commissioners must decide to which of the sections referred to in this Report the means at present available shall be applied, and the order in which the others shall be undertaken.

By referring to the accompanying detailed estimate, it will be seen that the perfect drainage of the first district, comprising 5,430¼ acres, will cost as follows:

The	1st	section,	$42,961.16,	or	$51.56	per acre,	or	$5.16 per lot.
"	2nd	"	37,389.55,	"	26.99	"	"	2.70 "
"	3d	"	111,676.51,	"	139.09	"	"	13.91 "
"	4th	"	111,676.51,	"	139.09	"	"	13.91 "
"	5th	"	116,764.01,	"	145.41	"	"	14.54 "
"	6th	"	116,764.01,	"	145.41	"	"	14.54 "
Total,		"	537,231.75,	"	98.93	"	"	9.89 "

Requiring 1,316 2-5 horse power, at a cost per horse power of $408 11, the horse power being taken at 33,000 lbs. raised one foot high in one minute.

The above estimate may appear large at first sight, but when compared with the immense benefits to be derived from its proper and judicious expenditure, and with the large sums expended on some of the public and private buildings of this city (the St. Charles Hotel for instance, $500,000; the St. Louis Hotel, $1,000,000; the Municipal Hall, $356,000, etc.), it sinks into insignificance, particularly when it is considered that this sum is to be called for only during a series of years, and to be borne by a whole community who are directly interested in this vitally important improvement, which is to bring, in the opinion of the best informed, health and rapid prosperity to our metropolis, and entitle it, ere long, to the proud appellation of the first city in the Union, not only in commerce, but in population.

Respectfully, your obedient servant,

G. T. BEAUREGARD,

Brevet Major of Engineers and Chief Engineer of First Draining District.

ESTIMATED COST OF DRAINING FIRST DRAINING DISTRICT, NEW ORLEANS.

FIRST SECTION.

DESIGNATION.	Square Feet.	Length Running Feet.	Cubic Yards	Price per Yard.	Cost.	Total.
For re-excavation of Galvez street canal for purposes of a reservoir	104	4,900	18,874	40c.	$7,549 60	
" re-excavation of Canal street	32	1,700	2,015	..	806 00	
" discharge canal and levee near old canal	90	4,500	15,000	50c.	7,500 00	$15,855 60
" 202-horse power engine, boiler and wheel					$9,000 00	
" transportation and erection complete					1,200 00	
" foundations					6,500 00	
" building					6,500 00	23,200 00
Add for contingent and unforeseen expenses 10 per ct.						3,905 56
Total amount of estimate			35,889			$42,961 56
That is $51 56 per acre, or $5 16 per lot, assuming ten lots per acre.						

SECOND SECTION.

For re-excavation of old canals			53,615	40c.	$21,446 00	
" excavation of new canals, B	37½	10,000	13,889	50c.	6,944 50	
" " " ditches, C	18	16,800	11,200	..	5,600 00	33,990 50
" 335.76-horse power engine, boiler and wheel					12,500 00	
" transportation and erection complete					1,400 00	
" foundations					8,500 00	
" building					7,500 00	20,900 00
						63,890 50
Deduct draining engine already in use						29,900 00
						33,990 50
Add for contingent and unforeseen expenses 10 per ct.						3,399 05
Total amount of estimate			78,704			$37,389 55
That is $26 99 per acre, or $2 70 per lot.						

THIRD SECTION.

CANALS AND DITCHES.

For excavating main canal or reservoir, A	168	4,575	28,467	50c.	$14,233 50	
" " secondary canals, B	37½	20,850	28,958	..	14,479 00	
" " main ditches, C	18	27,300	18,200	..	9,100 00	
" " secondary ditches, D	9	27,800	9,266	..	4,633 00	
" " discharge canal	100	6,950	25,740	..	12,870 00	$55,315 50
			110,631			

LEVEES.

For Bayou St. John levee	115½	8,335	35,655	40c.	14,262 00	
" middle levee between sections 3 and 6	82½	4,550	13,903	..	5,561 20	
" separation between sections 3 and 4	82½	6,950	21,236	15c.	3,185 40	23,008 60
			70,794			
" draining engine, building, etc., complete, as per section 1						23,200 00
Add for contingent and unforeseen expenses 10 per ct.						10,152 41
Total amount of estimate			181,425			$111,676 51
That is $139 09 per acre, or $13 91 per lot.						

FOURTH SECTION.

The same as for section 3			181,425			$111,676 51
That is $139 09 per acre, or $13 91 per lot.						

FIFTH SECTION.					
The same as sections 3 and 4		181,425			$111,676 51
Add for revetment of Lake Shore levee, running feet..	4,625		$1 00	$4,625 00	
" for contingent and unforeseen expenses 10 per ct.				462 50	5,087 50
Total amount of estimate		181,425			$116,764 01
That is $145 41 per acre, or $14 54 per lot.					
SIXTH SECTION.					
The same as for section 5		181,425			$116,764 01
That is $145 41 per acre, or $14 54 per lot.					

ESTIMATED COST OF DRAINING FIRST DRAINING DISTRICT, NEW ORLEANS.

RECAPITULATION.

DESIGNATION.	Cubic Yards.	Cost.
For First Section	35,889	$ 42,961 16
" Second "	78,704	37,389 55
" Third "	181,425	111,676 51
" Fourth "	181,425	111,676 51
" Fifth "	181,425	116 764 01
" Sixth "	181,425	116,764 01
Total	840,293	$537,231 75
That is, 5,430.25 acres will require for perfect drainage—		
1,316.40 horse-power, at a total cost of		$537,231 75
Or 4.125 acres will require one horse-power, at cost of		408 11
Or one acre at $98 93, or one lot at		9 89

G. T. BEAUREGARD,

Chief Engineer First Draining District.

VITAL STATISTICS OF NEW ORLEANS, LOUISIANA.

TABLE ILLUSTRATING THE RELATIONS OF THE POPULATION OF NEW ORLEANS TO THE TOTAL MORTALITY FROM ALL CAUSES, DURING A PERIOD OF NINETY-FOUR YEARS. COMPILED BY PROF. JOSEPH JONES, M. D.

Year.	Population.	No. of Deaths.	Death Rate per 1000 Inhabitants.	Year.	Population.	No. of Deaths.	Death Rate per 1000 Inhabitants
1787....	5,284	338	63.98	1844....	86,632	4620	53.33
1796....	8,756	638	72.86	1845....	89,261	2783	31.17
1808....	17,081	773	45.25	1846....	102,070	4220	41.34
1810....	17,242	963	55.85	1847....	108,699	9043	83.19
1811....	18,235	1239	67.94	1848....	115,503	7407	64.12
1812....	19,229	624	32.50	1849....	122,511	9862	80.49
1813....	20,212	939	46.45	1850....	129,747	7819	60.26
1814....	21,216	926	43.69	1851....	138,599	7275	52.48
1815....	22,209	1252	56,36	1852....	147,441	8693	58.95
1816....	23,303	651	27.93	1853....	154,132	15,287	102.42
1817....	24,196	1772	73.27	1854....	156,556	11,347	72.47
1818....	25,190	1106	43.90	1855....	158,980	10,096	63.50
1819....	26,183	2138	81 65	1856....	161,404	5689	35.24
1820....	27,176	1766	64.98	1857....	163,828	5581	34.07
1821....	29,441	1165	39.57	1858....	165,450	11,720	70.83
1822....	31,706	2734	86.22	1859....	166,500	6849	41.13
1823....	33,971	1662	48.92	1860....	168,670	7341	43.52
1824....	36,236	1748	48.23	1861....	169,907	5772	33.97
1825....	38,501	2177	56.54	1862....	171,134	6278	36.10
1826....	40,766	1248	30.61	1863....	172,361	7172	41.61
1827....	43,031	1057	24.56	1864....	173,588	8498	48.95
1828....	45,296	1490	32-89	1865....	174,815	7016	40.13
1829....	47,561	2520	52.98	1866....	178,042	7754	43.55
1830....	49,826	2022	40.58	1867....	181,269	10,096	55.57
1831....	52,455	1926	36.71	1868....	184,496	5343	28.96
1832....	55,084	8099	147.01	1869....	187,723	5593	29.79
1833....	57,713	4976	86.22	1870....	191,418	6942	36.26
1834....	60,342	3687	61.10	1871....	193,412	6059	31.24
1835....	62,971	3873	61.50	1872....	196,406	6588	33.54
1836....	65,600	2734	41 67	1873....	198,900	7995	40.19
1837....	68,229	4807	70.45	1874....	201,394	7193	35.71
1838....	70,858	2606	36.77	1875....	203,888	6535	32.05
1839....	73,487	3934	53.53	1876....	206,382	6585	32.39
1840....	76,116	2977	39,11	1877....	208,876	7169	34.32
1841....	78,745	4549	57.76	1878....	211,371	10,717	50.70
1842....	81,374	3375	41.47	1879....	213,865	5122	23.94
1843....	84,003	4050	48.21	1880....	216,359	5623	25.98

TABLE ILLUSTRATING DEATHS AND DEATH RATE FROM ALL CAUSES AND FROM YELLOW FEVER, IN THE CITY OF NEW ORLEANS DURING A PERIOD OF SIXTY-FOUR YEARS. COMPILED BY PROF. JOSEPH JONES, M. D.

Year.	Deaths from all causes.	Deaths from Yellow Fever.	Death Rate per 100.		Year.	Deaths from all causes.	Deaths from Yellow Fever.	Death rate per 1000.	
			from all causes.	from Yellow Fever.				from all causes.	from Yellow Fever.
1817..	1772	823	73.27	3.40	1849...	9862	769	80.49	6.20
1818..	1106	115	43.90	0.40	1850...	7819	107	60.26	0.80
1819..	2138	425	81 65	1.60	1851...	7275	17	52.48	0.10
1820..	1766	400	64 98	1 40	1852...	8693	456	58.95	3 09
1821..	1165	...	39.57	....	1853...	15787	7849	102.42	50.90
1822..	2734	808	86.22	2.50	1854...	11347	2425.	72.47	15.40
1823..	1662	1	48.92	0.01	1855...	10096	2670	63.50	16.80
1824..	1748	108	48.23	0.30	1856...	5689	81	35.24	0.50
1825..	2177	49	56.54	0.10	1857...	5581	200	34.07	1.20
1826..	1248	5	30.61	0.01	1858...	11720	4855	70.83	29.30
1827..	1057	109	24 56	0.20	1859...	6849	92	41.13	0 50
1828..	1490	130	32.89	0.30	1860...	7341	15	43.52	0.09
1829..	2520	900	52.98	1.90	1861...	5772	....	33.97	.....
1830..	2022	117	40.58	0.20	1862...	6278	2	36.10	0.01
1831..	1926	2	36.71	0.01	1863...	7172	2	41.61	0.01
1832..	8099	400	147.01	0.70	1864...	8498	6	48.95	0.03
1833..	4976	1000	86.22	17.30	1865...	7016	1	40.13	0.01
1834..	3687	95	61.10	1.50	1366...	7754	185	43.55	1.00
1835..	3873	284	61.50	4.50	1867...	10096	3107	55.57	17.10
1836..	2734	5	41.67	0.08	1868...	5343	3	28.96	0.02
1837..	4807	1300	70.45	19.00	1869..	5593	3	29.79	0.02
1838..	2606	17	36.77	0.20	1870...	6942	588	36.26	3.10
1839.	3934	800	53.53	10.80	1871...	6059	54	31.24	0.20
1840..	2977	3	39.11	0.04	1872...	6588	39	33.54	0.20
1841..	4549	1325	57.76	16.80	1873...	7995	226	40.19	1.10
1842..	3375	211	41.47	2.60	1874...	7193	11	35 71	0.05
1843..	4050	487	48.21	5.70	1875...	6535	61	32.05	0 30
1844..	4620	148	53.33	1.70	1876...	6585	42	32.39	0 20
1845..	2783	2	31.17	0.01	1877...	7193	1	34.32	0.01
1846..	4220	160	41.34	1.50	1878...	10717	4056	50.70	19.20
1847..	9043	2804	83.19	25.80	1879...	5122	19	23.94	0.09
1848..	7407	872	64.12	7.50	1880...	5623	2	25.98	0.009

POPULATION AND MORTALITY OF NEW ORLEANS 1880-1883—VITAL STATISTICS OF NEW ORLEANS DURING FOUR YEARS, 1880-1883 INCLUSIVE.

POPULATION OF NEW ORLEANS.

WHITE.				COLORED.			
YEAR.	Males.	Females.	Total.	YEAR.	Males	Females	Total.
1880	75693	82702	158395	1880	25247	32501	57748
1881	76451	83844	160295	1881	25740	32816	58556
1882	77224	84994	162218	1882	26246	33129	59375
1883	77986	86178	164164	1883	26756	33450	60206
1884	78753	87372	166125	1884	27277	33771	61048

Total Whites and Colored.

YEAR.	Males.	Females	Total.
1880	100990	115203	216143
1881	102190	116660	218850
1882	103471	118122	221593
1883	104742	119628	224370
1884	106030	121143	227173

MORTALITY OF NEW ORLEANS.

WHITE.				COLORED.			
YEAR.	Males.	Females.	Total.	YEAR.	Males.	Females.	Total.
1880	2050	1587	2637	1880	1003	983	1986
1881	2419	1708	4127	1881	1178	1101	2279
1882	2104	1478	3582	1882	1225	1115	2340
1883	2657	1895	4552	1883	1634	1337	2971
Total	9230	6668	15898	Total	5040	4536	9576

Total Whites and Colored.

YEAR.	Males.	Females.	Total.
1880	3053	2570	5623
1881	3593	2813	6406
1882	3329	2593	5922
1883	4291	3232	7523
Total	14266	11208	25474

DEATH-RATE OF NEW ORLEANS PER 1000 POPULATION.

WHITE.				COLORED.			
YEAR.	Males.	Females.	Total.	YEAR.	Males.	Females.	Total.
1880	26 8	19 0	22 82	1880	39.34	30.09	34.10
1881	31 4	20 2	25 59	1881	45.32	33 36	38.31
1882	27.1	17.1	21.88	1882	46.22	33 49	39.14
1883	35.1	21.8	27 56	1883	60.47	49.78	49.00
Mean	30 1	19 5	24.46	Mean	47.84	34.18	40.14

Total Whites and Colored.

YEAR.	Males.	Females.	Total.
1880	30 03	22.16	25.85
1881	34.94	23 96	29.08
1882	31.97	21.81	26.60
1883	40.71	26.84	33.32
Mean	34.41	23.67	28.71

DEATH-RATE OF NEW ORLEANS PER 1000 POPULATION EXCLUSIVE OF DEATHS FROM SMALL-POX.

Year.		Year.	
1880	25.85	1882	24.69
1881	29.06	1883	27 71

VITAL AND MORTUARY STATISTICS OF NEW ORLEANS, 1849-1881, MONTHLY MORTALITY.

YEARS.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
1849	1182	600	1307	968	1007	870	435	485	666	910	712	630	9862
1850	582	425	883	491	601	459	584	916	653	620	899	756	7819
1853	581	463	456	532	671	656	2216	6201	1627	674	712	844	15633
1855	?	?	?	?	851	1316	1052	1747	1454	502	321	448	7691
1856	379	339	342	334	390	797	583	569	497	481	489	?	5200
1857	372	371	498	530	504	497	429	482	417	510	602	369	5581
1858	448	362	518	482	576	531	813	1826	3069	1775	834	476	11710
1859	504	472	438	479	621	525	701	503	656	611	788	549	6847
1860	567	514	567	633	646	730	779	557	622	520	535	671	7341
1861	518	635	448	411	510	657	463	485	395	431	496	?	5449
1867	397	362	401	350	316	561	551	1039	2498	1942	959	720	10096
1869	328	292	408	555	602	525	551	421	422	474	452	563	5593
1870	471	429	600	545	621	673	497	480	858	681	465	512	6932
1871	443	347	491	440	411	535	488	551	451	441	568	429	5595
1872	447	630	430	418	713	572	483	569	425	432	430	473	6122
1873	642	556	603	600	930	562	773	498	624	713	500	504	7505
1874	583	481	452	609	548	517	700	708	440	636	527	597	6798
1875	572	454	461	522	403	551	622	447	675	473	443	494	6117
1876	436	460	559	447	601	653	536	469	503	477	524	592	6257
1877	571	589	788	555	738	633	504	516	439	417	543	415	6708
1878	403	511	437	475	535	427	492	1784	2558	1845	492	359	10318
1879	574	360	376	369	509	402	422	422	327	492	410	459	5122
1880	446	438	462	461	581	573	422	407	450	466	517	460	5623
1881	443	466	551	529	683	733	571	472	427	442	508	481	6406
Total	11989	10556	12456	11735	14568	14955	15667	22554	21153	17065	13726	11801	178325
Average Monthly Mortality	521	459	541	510	607	623	653	940	880	711	572	513	7430

From 1849 to 1867 includes Still-born.
From 1869 to 1881 excludes Still-born.

NATIONALITIES.

COUNTRY.	1853	1857	1858	1859	1860	1867	1868	1869	1870	1871	1872	1873	1874	1875	1876	1877	1878	1879	1880	1881	Total 20 years
Australia	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	1
Africa	.....	12	8	6	4	12	2	8	10	6	11	13	13	2	7	6	9	8	4	4	145
Austria	108	7	29	15	17	44	6	7	9	9	7	24	11	13	10	9	50	14	9	7	405
At sea	.....	.....	.....	.....	1	2	.....	3	2	2	.....	4	1	.....	.....	.....	.....	.....	1	.....	16
British America	25	10	10	16	19	10	3	4	13	1	6	9	4	3	1	14	42	15	3	6	214
Belgium	76	2	13	.....	.....	11	5	4	6	1	.....	.....	6	5	5	4	19	3	4	4	168
Canada	.....	.....	.....	.....	.....	52	10	10	11	11	8	19	11	8	6	.....	.....	.....	6	13	165
China	.....	.....	.....	1	1	1	3	1	7	6	5	14	7	7	5	4	11	8	4	10	95
Denmark	.....	4	16	13	5	22	6	3	15	6	11	8	8	5	4	5	22	5	5	8	171
East Indies	.....	7	4	1	5	3	.....	.....	.....	.....	.....	1	.....	.....	1	.....	.....	.....	.....	.....	22
England	227	63	214	76	101	193	49	49	99	90	70	82	56	63	68	533	958	478	519	72	4060
Finland	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	1
France	392	166	677	208	219	549	207	196	352	231	212	290	258	247	253	246	587	208	193	231	5922
Germany	1593	308	1411	424	443	995	302	279	518	405	411	534	477	396	388	465	905	421	363	446	11,484
Greece	.....	.....	.....	.....	.....	.....	2	.....	1	....	1	2	2	4	1	.....	5	3	1	4	26
Holland	.....	.....	.....	.....	14	8	2	2	5	3	3	2	3	3	4	2	8	2	4	3	68
Ireland	2867	686	1891	506	998	1133	439	474	551	569	537	597	525	463	450	†	†	†	†	487	13,173
Italy	.....	20	114	24	20	144	33	42	199	52	43	52	76	51	54	64	382	50	47	56	1,523
Louisiana	1657	*	*	*	*	*	*	*	*	*	*	*	*	*	*	3941	5354	2873	3518	3897	21,240
Mexico	.....	11	18	14	10	5	11	9	7	12	4	12	8	9	2	8	11	9	9	9	178
Madeira	28	1	6	.....	.....	....	1	3	2	5	.....	1	1	.....	.....	.....	.....	.....	.....	.....	48
Norway and Sweden	.....	15	20	10	18	21	6	10	14	18	15	15	17	14	13	14	25	11	6	14	276
Persia	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
Poland	.....	3	17	6	2	17	1	2	12	4	2	1	2	4	3	2	17	....	....	1	96
Portugal	.....	3	5	5	10	3	4	5	10	4	11	6	9	7	8	8	11	4	7	4	124
Prussia	.....	28	114	38	39	171	36	16	32	20	14	15	17	8	11	....	.....	.....	.....	...	559
Russia	.....	2	7	.....	.....	20	3	1	9	5	5	3	3	3	4	2	14	2	7	4	94
Scotland	.....	17	50	23	40	66	10	19	31	21	36	28	25	20	17	.....	.....	.....	.....	14	417
Sandwich Islands	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
South America	.....	4	.....	.....	2	3	1	3	2	1	.....	2	2	2	2	2	3	2	1	1	33
Spain	83	13	66	42	45	53	29	19	44	28	38	49	36	34	28	40	44	28	27	43	789
Switzerland	.....	23	76	28	21	46	14	14	38	21	31	21	19	9	16	20	44	26	22	20	509
Turkey	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	2	.....	.....	7	.....	.....	.....	10
United States (not Louisiana)	495	3209	5624	4073	3263	4990	3338	3971	4753	4285	4474	5517	5041	4616	4517	1066	1531	822	799	1017	67,401
Wales	.....	.....	.....	.....	.....	5	1	1	8	3	2	2	2	1	3	.....	.....	.....	2	1	31
West Indies	23	27	42	47	34	34	32	33	54	40	68	63	65	44	38	51	59	44	27	36	861
Not stated	8,059	940	1278	1271	2010	1482	787	812	577	199	97	109	93	74	338	202	200	86	34	3	18,651
Total	15,633	5,581	11,710	6,847	7,341	10,096	5,343	6,001	7,391	6,059	6,122	7,505	6,798	6,117	6,257	6,708	10,318	5,122	5,623	6,406	148,978

* Included under United States. † Included under England.

VITAL AND MORTUARY STATISTICS OF NEW ORLEANS.

DEATHS FROM ZYMOTIC AND EPIDEMIC DISEASES (SMALL-POX, MEASLES, SCARLATINA, TYPHUS FEVER, TYPHOID FEVER, YELLOW FEVER, MALIGNANT OR ASIATIC CHOLERA, DIPHTHERIA, WHOOPING COUGH), AND FROM ALL DISEASES, WITH DEATH RATE PER 1000 INHABITANTS, FROM EPIDEMIC AND ZYMOTIC DISEASES, FROM ENDEMIC DISEASES, AND FROM ALL CAUSES.

	Deaths from Small Pox and Varioloid.	Deaths from Measles.	Deaths from Scarlatina.	Deaths from Typhus Fever.	Deaths from Enteric or Typhoid Fever.	Deaths from Yellow Fever.	Deaths from Malignant or Asiatic Cholera	Deaths from Diphtheria.	Deaths from Whooping Cough	Total Deaths from Zymotic and Epidemic Diseases.	Total Deaths from all Other Diseases.	Grand Total Deaths from all Causes.	Population of the City of New Orleans.	Death Rate per 1000 per Annum from Zymotic and Epidemic Diseases.	Death Rate per 1000 per Annum from all other Diseases	Death Rate per 1000 per Annum from All Causes.
1844	....	10	4	3	44	148	....	....	22	231	4245	4476	86632	2.66	49.00	51.66
1845	....	....	121	...	76	2	.....	...	....	199	2408	2607	89261	2 22	26.98	29.20
1847	27	38	15	154	233	2306	1	1	22	2797	4506	7303	108699	25.73	41.45	67.18
1848	105	61	119	372	223	808	1646	...	41	3375	5510	8885	115503	29.22	47.70	76.92
1849	133	10	22	164	178	769	3176	....	27	4479	5093	9572	122511	36.56	41.57	78.13
1850	37	57	21	199	103	107	1448	....	13	1985	5546	7531	129747	15.29	43.67	58.96
1851	38	26	29	228	103	.....	430		16	870	6405	7275	138599	6.42	46.06	52.48
1852	....	....	..	..	....	456	1329	.....	...	1785	6594	8379	147441	12 10	44.72	56.82
1853	17	123	126	103	146	7849	585	....	44	8991	6296	15287	154132	58.33	40.85	99.18
1855	....	....	19	..	....	2670	883	.....	....	2572	3934	7506	158980	22.46	24.75	47.21
1856	2	53	18	22	115	74	43	....	53	380	4955	5335	161404	2.35	30.70	33.05
1857	103	104	79	8	118	199	24	....	27	662	4561	5223	163828	4 04	27.84	31.88
1858	108	7	79	20	189	4845	26	95	28	5397	5975	11372	165450	32.62	36.11	68.73
1859	43	13	121	7	214	91	27	253	31	800	5694	6494	166500	4.80	34.20	39.00
1860	22	60	200	10	163	15	30	145	75	720	6621	7341	168670	4.26	39 26	43 52
1861	1	35	198	5	102	.....	12	78	14	445	4654	5099	169907	2.62	27.48	30.10
1863	2	98	43	9	257	2	4	188	55	658	6352	7010	172361	3.81	36.86	40.67
1864	605	34	200	11	268	6	5	337	39	1505	7061	8566	173588	8 67	40 67	49.34
1865	613	31	161	5	154	1	9	104	13	1091	5608	6699	174815	6.24	32.08	38.32
1866	188	82	41	12	116	192	1294	98	41	2064	5278	8342	178042	11.59	29.64	41.23
1867	47	2	24	23	119	3107	581	31	28	3962	5624	9586	181269	21.85	31.03	52.88
1868	14	1	15	5	58	3	129	16	4	245	4593	4838	184496	1.32	25.07	26.25
1869	141	217	13	5	63	3	4	19	121	586	5007	5593	187723	3.12	29.67	29.79
1870	528	23	44	13	80	587	3	19	9	1306	5636	6942	191418	6 84	29.42	36.26
1871	2	12	5	4	71	54	6	14	1	169	5426	5595	163412	0.87	28.05	28.92
1872	29	76	5	4	67	39	..	39	23	282	5840	6122	196406	1.43	29.74	31.17
1873	509	69	5	5	57	226	142	46	61	1120	6385	7505	198900	5.58	32.15	37.73
1874	567	....	4	2	95	11	6	102	16	823	5975	6798	201394	4.08	29.67	33 75
1875	342	1	144	2	57	61	4	69	58	738	5379	6117	203888	3.61	26.39	30.00
1879	232	231	123	2	53	42	.....	40	39	762	5495	6257	206382	3 69	26.63	30.32
1877	1099	15	10	1	69	1	.....	33	26	1254	5454	6708	208876	6.00	26.11	32.11
1878	151	3	1	23	44	4046	.....	59	....	4327	5991	10318	211371	20.47	28.34	48.81
1876	..	....	1	....	33	19	.....	58	9	120	5002	5122	213865	0.54	23.38	23 94
1880	1	97	56	1	52	2	....	81	70	360	5263	5623	216140	1.66	24.32	25.98
1881	5	26	197		66	.....	.....	92	1	387	6019	6406	216140	1.79	27.85	29.64
	5731	1615	2263	1422	3786	28739	11847	2017	1027	58447	190385	248832	5957750	9.81	31.95	41.76

CONSUMPTION (PHTHISIS PULMONALIS).

On examination, the mortuary records of New Orleans will show that phthisis pulmonalis, commonly called consumption, does not confine its ravages to more northern cities, but is the cause of an alarming mortality even amongst the natives (creoles of New Orleans). I have carefully examined and consolidated the mortuary statistics of the Charity Hospital of New Orleans, with the following results:

During a period of eighteen years preceding the civil war—1842 to 1860—there were treated in the Charity Hospital of New Orleans, 5699 cases of phthisis pulmonalis, of which 3084 terminated fatally, giving 54.1 per cent mortality. During the sixteen years following the recent civil war, there were treated in the Charity Hospital 5251 cases of phthisis pulmonalis, in which 2525, or 40.8 per cent, died. During a period of thirty-four years—1842 to 1880—there were treated in the Charity Hospital of New Orleans, 10,950 cases of phthisis pulmonalis, 5669 or 51.2 per cent of which

terminated fatally. While the statistics of the Charity Hospital refer chiefly to the laboring classes, and to those who have been reduced in circumstances by misfortune and disease, at the same time the statistics of the city at large illustrate to an equal extent the destructive effects of this insidious disease.

Thus, the deaths from phthisis pulmonalis were as follows in New Orleans for the respective years :

Years.	Deaths from Phthisis Pulmonalis.	Years.	Deaths from Phthisis Pulmonalis.	Years.	Deaths from Phthisis Pulmonalis.
1845	360	1860	834	1871	780
1848	576	1861	654	1872	784
1849	592	1862	761	1873	850
1850	674	1863	839	1874	810
1852	787	1864	664	1875	799
1853	755	1865	600	1876	882
1855	652	1866	671	1877	888
1856	568	1867	632	1878	880
1857	624	1868	684	1879	823
1858	779	1870	657	1880	863
1859	876				

During a period of years extending from 1845 to 1881, the deaths from phthisis-pulmonalis have, with the exception of a single year, annually exceeded half a thousand, and in many years have been more than eight hundred.

During ten years—1845–1858—the deaths from phthisis-pulmonalis, in New Orleans numbered 6367; during ten years, 1859-1869, 7251; during eleven years, 1870–1880, 9016. We have thus during a period of thirty-one years, 1845-1880, a grand total of 22,598 (twenty-two thousand five hundred and ninety-eight) deaths by phthisis-pulmonalis.

Surely a disease which steadily and remorsely claims its victims each year, which in any long series of years has been as destructive as the dreaded yellow fever, should secure the earnest consideration of those charged with the sanitary affairs of this city. The epidemic of 1878, threw the professional minds of a certain order, into a state of morbid excitability on the subject of yellow fever, and the public have been served with numerous lucubrations on this subject, and quarantine.

In comparison with phthisis-pulmonalis, which every year destroys its thousands in every State of this Union, yellow fever should be regarded only as a causal and minor disease, visiting only certain limited portions of the tropical and temperate regions at long intervals. We hear much of the cost of epidemics, but nothing as to the fearful cost of such diseases as phthisis, which holds its doomed victims in its deadly embrace for months and even years, and inflicting, in addition to indescribable tortures, vast and ruinous pecuniary expenses. I have given the stern facts with the design of arousing the attention of this people to the consideration of some of the prominent causes of this disease and some of the modes of prevention. This subject of personal and domestic sanitation should appeal to all alike. You may escape the yellow fever by leaving infected places; in other words when the disease appears the only sure remedy is flight, but you cannot escape those causes of disease which spring from your habits, modes of living and climate, and which are ever present with you, in your assem-

blies, in your counting-houses, in your dwellings, around your firesides and in your beds devoted to quiet and rest.

The chief causes of the prevalence of phthisis-pulmonalis in New Orleans appear to be:

1. Imperfect drainage.
5. The saturation of the atmosphere with moisture.
3. Imperfect construction of houses.
4. Imperfect ventilation of houses.
5. Crowding.
6. The absence of regular exercise for diversion and recreation.
7. Imperfect nourishment.
8. Hereditary taint or predisposition.

A volume might be written on the preceding divisions or causes, but our intention is clearly to present practical observations which may prove of benefit to those interested.

Owing to the peculiar topographical and geographical situation of New Orleans, the soil is saturated with moisture, and the atmosphere is habitually near the dew point. Large portions of the city are compactly built with brick, and the sudden changes of the fall, winter and spring are frequently manifested by the precipitation of the moisture on the cold walls in the form of streams of water.

Dampness checks the cutaneous perspiration; it abstracts the normal heat and electricity from the body; it holds the noxious exhalations from the human body, and from all sources and it promotes the devolopment of low forms of disease, of which phthisis may be taken as a type.

In many instances no attention has been paid to the proper filling in with sand and gravel of building lots, and stagnant water frequently stands under the houses, and is a potent source of disease. Whole blocks of buildings can be pointed out in the heart of this great city in which there is no proper ventilation, and in which the lowest floor rests directly upon the damp earth. It is not to be wondered at that the floors of these damp, ill-ventilated rooms and stores rot continually, and must be almost annually renewed.

Houses, churches, school-houses, stores, and all buildings inhabited or occupied by human beings, should be thoroughly ventilated—laterally and perpendicularly. The air should circulate freely under the lower floor. The air should be admitted by ventilators both in the front and rear of each room, and also, when practicable, laterally; and a system of ventilation should be so arranged as to allow of the escape of the foul air of the sleeping apartments directly up through the roof into the open air.

If people would send for the carpenter and properly ventilate their houses, they would not so often need his services in the grave-yard.

The effects of imperfect ventilation and close confinement and crowding, with insufficient food, is fully illustrated by the frequent occurrence of phthisis pulmonalis among females who are compelled to live by the needle alone, and who occupy small, unventilated houses, resting almost directly upon the ground. Regular exercise in the open air. nutritious food, and such thorough ventilation as shall at all times secure pure air in the store, workshop, sitting-room and bedroom, are the great means of preventing the development of phthisis (consumption.)

War destroys its thousand, but phthisis claims its tens of thousands!

The improvidence, ignorance and avarice of mankind, as manifested in the neglect of sanitary laws, in the construction and conduct of dwelling-houses, stores, factories, school-houses and churches, are more destructive to human life than yellow fever or all other pestilences.

TABLE SHOWING DEATHS FROM PHTHISIS PULMONALIS BY MONTHS, DURING THE YEARS 1869 TO 1880, INCLUSIVE.

	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.	Death rate per 1000 per annum.	Population.
1869	42	43	48	72	59	62	67	59	51	60	61	60	684	3.58	
1870	56	52	81	74	53	64	66	48	71	55	53	84	757	3.96	191.000
1871	55	54	84	56	59	74	58	63	63	66	88	60	780	4 08	
1872	56	81	58	49	79	66	56	76	57	79	68	59	784	4.10	
1873	90	58	66	68	73	58	88	64	67	89	57	72	850	4.45	
1874	81	64	52	79	67	58	68	69	51	81	66	74	810	3.85	
1875	80	84	67	65	52	59	77	62	87	58	52	56	799	3.80	
1876	76	60	94	58	70	64	82	63	88	66	92	69	882	4.20	210.000
1877	74	81	86	57	71	92	70	57	83	63	83	71	888	4.23	
1878	65	75	77	66	68	108	69	88	89	59	89	47	880	4.19	
1879	76	73	77	74	71	37	98	47	54	101	54	61	823	3.92	
1880	67	69	85	68	69	70	67	54	65	60	94	95	863	3.99	216.000
Total	818	774	875	786	791	812	866	750	826	837	857	808	9800	....	.....
Average	68.1	64.5	72.7	65.5	65.9	67.9	72.1	62.5	68.8	69.7	71.4	67.3	816	4.03	202.500

DIARRHŒAL DISEASES.

The deaths from diarrhœal diseases in New Orleans, appear, in a measure, to be related to the elevation of temperature, as they are most numerous in the months of May, June and July, as will be shown by the following statistics:

TABLE SHOWING DEATHS FROM DIARRHŒAL DISEASES, BY MONTHS, DURING THE YEARS 1869 to 1880, INCLUSIVE.

YEARS.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.	Death rate per 1000 per annum.	Population.
1869	21	8	21	35	48	55	54	36	35	30	44	35	422	2.21	
1870	22	10	11	19	61	81	42	37	41	28	45	35	432	2.26	
1871	26	16	31	64	38	67	46	39	27	27	45	26	452	2.36	191,000
1872	24	35	14	24	68	41	30	39	29	26	31	29	390	2.04	
1873	20	27	34	108	238	56	71	30	30	34	45	31	724	3.79	
1874	24	18	14	24	66	33	52	42	36	46	38	36	429	2.24	
1875	48	16	11	18	38	81	62	26	38	20	20	21	399	1.90	
1876	18	14	21	17	47	62	54	27	37	35	29	25	386	1.83	
1877	23	9	21	32	54	101	49	37	32	27	44	20	449	2.13	210,000
1878	16	15	15	32	55	52	39	57	29	24	27	24	385	1.83	
1879	23	13	17	28	42	53	57	21	21	26	22	22	345	1.64	
1880	29	15	17	20	45	56	32	26	23	25	21	22	331	1.53	216,000
Total	294	196	227	421	800	738	588	417	378	348	411	326	5144	....	.....
Average	24.5	16.3	18.9	35.0	66.6	61.5	49.0	34.7	31.5	29.0	34.2	27.2	428	2.11	202,500

RELATIONS OF MILK AND ITS ADULTERATIONS TO THE DIARRHOEAL DIEASES OF CHILDREN.

From the fact that persons may be entirely sustained upon a diet of milk, for an indefinite period, it is evident that this fluid must contain all the elements necessary for the growth and sustenance of the human body; and chemical research has shown that milk contains the three classes of principles which are required for human food, namely: the albuminous or nitrogenous, the oleagenous and the saccharine. Milk consists of water holding in solution casein or cheese, sugar of milk, various salts, and in suspension, fatty matters, in the form of myriads of semi-opaque globules, to which the color and opacity of milk is due.

As milk is the only article supplied by nature which combines all the elements requisite to secure healthy nutrition in a form suited to the young animal; and as the entire human race after birth and for an indefinite period ranging from one to two years is dependent upon milk for its support and existence, it is evident that it should not be omitted from the category of the necessaries of life, to which the attention of those charged with the conduct of the sanitary affairs of this city and State should be earnestly and efficiently directed.

The vast importance of regulating the milk supply of New Orleans, is clearly demonstrated by the great prevalence and frightfully destructive effects of such infantile diseases as cholera infantum, tabes mesenterica, convulsions, teething and infantile debility.

The fearful mortality which occurs in this city amongst "*teething*" children and infants, is shown by the statistics of the following table:

TABLE GIVING THE DEATHS IN THE CITY OF NEW ORLEANS DURING A PERIOD OF TWENTY-SEVEN YEARS (1847-1880) FROM INFANTILE DISEASES (CHOLERA INFANTUM TABES MESENTERICA, CONVULSIONS, TEETHING AND DEBILITY).

YEAR.	Cholera Infantum.	Tabes Mesenterica.	Convulsions.	Infantile Convulsions.	Teething.	Infantile Debility.	Total.
1847	31	50	176	....	96	....	353
1849	40	1	314	....	102	65	522
1850	73	19	351	....	137	76	656
1853	75	21	465	....	143	100	804
1856	115	162	10	345	189	74	895
1857	91	125	12	375	151	69	823
1858	108	201	7	521	189	75	1101
1859	88	176	7	367	202	83	923
1860	108	184	26	409	154	91	972
1863	68	200	29	265	104	45	711
1864	80	194	12	296	214	80	876
1865	79	213	18	275	164	68	817
1866	88	204	50	236	88	58	724
1867	100	161	68	270	107	54	670
1868	85	125	222	50	56	17	555
1869	56	159	74	215	63	29	596
1870	65	182	22	206	78	52	605
1871	84	178	18	200	88	161	729
1872	52	258	19	227	90	163	809
1873	118	238	13	256	98	140	863
1874	80	261	11	203	70	112	737
1875	100	185	14	233	80	120	732
1876	73	191	18	140	80	102	604
1877	113	150	69	132	99	100	663
1878	77	166	88	175	86	150	744
1879	98	163	15	122	86	184	668
1880	89	144	5	172	88	161	659
Total	2236	4311	2133	5690	3102	2429	19901

During a period of twenty-seven years, cholera infantum, tabes mesenterica, convulsions, teething, and infantile debility, diseases peculiar to children and infants, destroyed in the city of New Orleans, 19,901.

On the other hand, during the same period, yellow fever occasioned the following deaths: 1847, 2804; 1849, 769; 1850, 107; 1853, 7849; 1856, 74; 1857, 199; 1858, 4855; 1859, 92; 1860, 15; 1863, 2; 1864, 6; 1865, 1; 1866 185; 1867, 3107; 1868, 3; 1869, 3; 1870, 587; 1871, 54; 1872, 39; 1873, 226; 1874, 11; 1875, 61; 1876, 42; 1877, 1; 1878, 4056; 1879, 19; 1880, 2; total deaths from yellow fever during the twenty-seven years specified, 25,172.

The deaths from yellow fever during the twenty-seven years specified exceeded those caused by the diseases of infancy, 5271; or in other words were only a little less than one-fifth greater. By what process of reasoning, and for what ends does the medical profession at large, and the Board of Health of the State of Louisiana in particular, neglect the consideration

of 19,901 deaths from infantile diseases, and concentrate all available skill and knowledge upon a disease which commits its ravages only at comparatively long intervals?

All diseases and all causes of deaths should be equally considered, by those charged with the conduct of the sanitary affairs of the city and State.

It is of course impossible to determine the exact proportion of the 19,901 infants who perished from improper nourishment and from adulterated milk, but that improper and insufficient food as well as crowding, imperfect ventilation, and exhalations from foul privies and filthy canals and gutters, enter as important factors in the production of the grand results, will not be denied.

It is not our purpose at this time, to enter into a minute description of the methods of analyzing milk microscopically and chemically; and even if it be granted that nothing but water has been added to dilute the milk, this water may itself have been derived from a foul source, and in the outbreaks of diphtheria, scarlet fever and typhoid fever, the medical inspector should not neglect a single link in the chain of evidence as will be shown by the following example: Fever once appeared in a large public schools, and as no mode of the entrance of the poison could be discovered it was at first supposed to have arisen spontaneously. The water supply on analysis proved to be pure. The milk was supplied from two or three sources, and was not complained of, but making an analysis of the milk it was found to have been manipulated with water. An analysis of the water from each of the farms, whence the milk was derived, was made, and one of these waters was discovered to be polluted with animal excrement, whilst the other two waters were undoubtedly pure. On visiting the dairy farm possessing the polluted water supply, it transpired that the closet and well were in affectionate proximity, and that the former had recently received the specific poison of typhoid fever from one of the laborers. If milk under such circumstances, should not evince by chemical examination, any decided departure from the usual state of the secretion, due regard being paid to its variation in composition, by reason of the age and food of the cow, time after calving, weather, etc., it must not be concluded that the poison of the disease has not been communicated to the milk through the medium of water, for there is every reason to believe, that the smallest quantity of water containing the specific poison, such as may be introduced by merely rinsing the milk cans, is sufficient to infect a large quantity of milk.

In outbreaks of scarlet fever, no ray of light should be neglected, however feeble, in tracing the mode in which this disease is disseminated, and a most rigid and careful examination by means of the microscope should be instituted, between milk that has been exposed to infection—as for example, from being stored within a few yards of persons suffering or recovering from this disease—and the milk of the same animal that has been thus endangered, with the object of discovering epithelial scales, for the poison of scarlet fever would seem to be mainly distributed through the air by the aid of the dust of the skin to which it attaches itself.

MALIGNANT OR ASIATIC CHOLERA.

It would be foreign to our purpose to enter fully into the history of this foreign pestilence, which has at various times reached the shores of Louisiana *from the cities of Europe, across the waters of the Atlantic Ocean and the Gulf of Mexico. Asiatic cholera has played no insignificant part in the grand carnival of disease and death.*

In 1832, Asiatic cholera, in conjunction with yellow fever, swelled the mortality of New Orleans to 8099, in a population of 55,084; and marked this year as the most terrible in the annals of this city, the death rate reaching the enormous proportions of 147.10 per 1000 inhabitants. In 1832 the inhabitants of New Orleans were more than decimated, for more than one-seventh of their number was destroyed chiefly by Asiatic cholera and yellow fever, acting in addition to the usual endemic and epidemic diseases.

The Charity Hospital affords the following statistics of Asiatic cholera: 1848, cases 662, deaths 396; 1849, cases 1813, deaths 1122; 1850, cases 724, deaths 530; 1851, cases 382, deaths 292; 1852, cases 485, deaths 358; 1853, cases 194, deaths 115; 1854, cases 478, deaths 352; 1855, cases 351, deaths 225; 1856, cases 32, deaths 11; 1857, case 1, death 1—total (1842-1860, eighteen years), cases 5122, deaths 3402; per cent of deaths, 66.4.

During the sixteen years following the American civil war, New Orleans has been comparatively exempt from Asiatic cholera, as shown by the statistics of the Charity Hospital; thus, in 1866, cases 300, deaths 237; 1867, cases, 94, deaths 70; 1868, cases 15, deaths 9; 1873, cases 34, deaths 27—total during sixteen years (1864-1880), cases 443, deaths 343; per cent of deaths, 77.4.

There were received into the Charity Hospital during thirty-four years (1842-1880) 5565 cases of Asiatic cholera, of which 3745 terminated fatally, giving a rate of mortality of 67.3 per cent.

The first authentic records which we have of the appearance of Asiatic cholera in New Orleans relate to the year 1832, when it occasioned 4340 deaths out of a total of 8090 deaths from all causes; yellow fever claimed only 400 deaths in this most pestilential year in the annals of this city. The disease lingered through 1833, when it claimed 1000 victims out of a total of 4976 deaths. In 1832 the population of New Orleans was 55,084, and of this number more than one-seventh perished, giving a mortality from all causes of 147.10 per thousand inhabitants, and from Asiatic cholera 78.78, and from yellow fever 7.20. Cholera appeared again in 1848 and destroyed 1646 inhabitants, and continued its ravages for several years, the deaths being: 1849, 3176; 1850, 1448; 1851, 430; 1852, 1329; 1853, 585; 1855, 883; 1856, 43; 1857, 24; 1858, 26; 1859, 27; 1860, 30; 1861, 12; 1863, 4; 1864, 5; 1865, 9; total deaths from Asiatic cholera during a period of nineteen years (1844-1865) 9678. Cholera appeared again in 1866, and continued its effects for three years. The deaths were as follows: 1866, 1294; 1867, 581; 1868, 129; 1869, 4; 1870, 3; 1871, 6; 1873, 142; 1864, 6; 1875, 4; total deaths during fifteen years (1866-1880) 2169.

It is evident, from the preceding statistics, that during a period of thirty-four years (1844-1880) Asiatic cholera destroyed 11,847 of the citizens of New Orleans; and, if we add to this number the deaths occasioned by this disease in 1832 and 1833, we have a grand total of 17,187 deaths.

Those charged with the conduct of the sanitary affairs of the city and State should view these 17,187 dead citizens as victims to a foreign or exotic pestilence, imported from the shores of Europe in the cargoes and passengers of ships.

The State of Louisiana can protect herself and the entire valley only by maintaining, at all times and under all circumstances, a vigilant quarantine at the mouth of the Mississippi river; and all parties who, under the guise of promoting commerce, endeavor to destroy an efficient quarantine, should be regarded as *public enemies.*

It is probable that the mortality occasioned by Asiatic cholera was even far in excess of these figures, for we find upon careful examination of the

mortuary records of New Orleans, that during a period of thirty-four years (1844-1880), the deaths from bowel affections were as follows: Cholera Morbus, 889; cholera infantum, 2408; teething, 3430; gastritis, 743; enteritis, 6915; dysentery, 7097; diarrhœa, 8289; total from these diseases, 29,771.

During the same period of thirty-four years, yellow fever occasioned 28,739 deaths.

It is evident, therefore, that the so-called ordinary bowel affections, diarrhœa, dysentery, cholera morbus, enteritis, gastritis, and teething) actually caused a larger number of deaths in New Orleans than yellow fever. And if we add the 11,847 deaths caused by Asiatic cholera, we have a grand total of 41,618 deaths from those diseases in which derangements of the gastro-intestinal mucous membrane forms the most prominent symptom.

The continuous and fearful mortality from this class of diseases, must be diminished by improved domestic and general sanitation. The great essentials of sanitary reform for the diminution of the number and fatality of the cases of bowel affections in New Orleans must be based upon—

1. Thorough drainage of the entire parish of Orleans, and especially that portion occupied by the city of New Orleans.
2. The prompt removal of all fœcal matters out of the limits of the city;
3. The daily removal of garbage;
4. Systematic and thorough cleansing of private premises, public buildings, factories, markets, streets and gutters;
5. The filling up with sand and gravel of all low lots.

SCARLATINA, MEASLES, WHOOPING COUGH AND DIPHTHERIA.

During a period of thirty-four years (1844-1880); scarlatina occasioned 2066 deaths; measles, 1589; whooping cough, 1026; diphtheria, 1925; total from this class of diseases, 6606.

Without doubt, much may be accomplished by certain hygienic measures, and by disinfection, for the mitigation and limitation of this class of diseases.

VENEREAL DISEASES—SYPHILIS, GONORRHŒA AND ORCHITIS.

The mortuary records of New Orleans like those of most American cities, affords but imperfect data, for the determination of the effects of venereal diseases upon the general mortality of population. The shame and disgrace which attaches to the loathsome results of promiscuous intercourse, often leads to the concealment of the true cause of death, by those immediately concerned in the framing of the death certificate. In addition to this fact, it is well known that the poison of syphilis, often induces profound constitutional derangements, which may not only be transmitted to the offspring to the third and fourth generations, but may also modify, and intensify various diseased processes.

The only available statistics to show the prevalence of venereal diseases in New Orleans, are those afforded by the Charity Hospital.

During a period of eighteen years (1842–1860), the number of cases of Syphilis in the Charity Hospital was 6767, of which 63 died, mortality 0.9 per cent; sixteen years (1864–1880) cases 5761, deaths 96, per cent 1.6. Total cases sypihlis, 12,528, total deaths from this disease 159 per cent 1.2 in the Charity Hospital, during a period of thirty-four years, 1842–1880. What portion of the 11,721 cases of rheumatism, with 84 deaths, or of the

10.950 cases of phthisis pulmonalis and 5609 deaths (51.2 per cent) were either directly or indirectly connected with constitutional syphilis, cannot be determined.

During the same period (1842–1880) the cases of gonorrhœa numbered 2392 with four deaths, and of orchitis 794 cases and three deaths.

It would appear from these statistics that venereal diseases have occasioned no marked mortality in New Orleans, but, nevertheless, they have furnished 15,714 cases to the Charity Hospital, which have been treated at the expense of the taxpayers of this city. We have no data by which to determine the actual cost of the treatment of venereal diseases in the Charity Hospital; but if the actual expenses attending the treatment (food, clothing, medicine, etc,) of each case be fixed at the moderate sum of $10- (ten dollars), then we have a grand amount of $157,140, expended in thirty four years for venereal diseases alone.

This estimate is below, rather than above the truth; for we find that during the same period of thirty-four years that 10,513 cases of ulcers, with 48 deaths, were treated in the Charity Hospital.

We know from experience that a large proportion of the ulcers treated in the Charity Hospital have been, either directly or indirectly, the result of syphilitic taint. A portion also of the 2794 cases of abscess, with 97 deaths, must also be referred to the action of venereal poisons.

It is well known that chronic ulcers and constitutional syphilis are the most tedious of all diseases which fall to the lot of the hospital physician, and that, in proportion to their numbers, they consume far more of the public charity than such diseases as yellow fever, cholera, and the acute forms of malarious diseases.

It would not be extravagant to assert that the treatment of venereal diseases in the Charity Hospital during the past thirty-four years has cost the taxpayers of the city and State between $300,000 and $400,000.

These facts represent but a portion of the expense, mischief and suffering caused by the venereal poison or poisons, for the statistics relate only to the poorer classes, who are without the means of obtaining proper medical attendance or suitable medicines, food and accommodations.

It would be just to estimate the number of cases of venereal disease which never enter a hospital as at least five times as numerous as those recorded upon the books of the Charity Hospital.

Without doubt, vast numbers of visitors, strangers, mercantile and maritime agents, and seamen from all parts of the globe, contract syphilis and gonorrhœa in New Orleans, as well as in all other large cities.

The existence of venereal diseases in this and in all other cities in this and other countries, must be recognized by those charged with the conduct of the sanitary affairs.

No form of quarantine has yet been devised which can prevent the spread of venereal diseases, but much good may be accomplished by the institution of a proper system of medical inspection and treatment, and police regulation, of the great sources of these diseases, namely, *Prostitutes.*

It would be foreign to our purpose to elaborate a plan for the proper registration, restriction to certain prescribed limits, and medical inspection and treatment of prostitutes; but this subject is worthy of the careful consideration of His Excellency the Governor and the General Assembly, and the municipal authorities of the cities and towns of Louisiana.

Prostitution has not yet been abolished by the fulminations of the pulpit, the denunciations of the press, and the stern enactments of the lawgiver.

That prostitution exists, is a fact to be recognized; and that the prostitute is one of the manifestations of humanity, even in this enlightened, advanced and civilized age, equally demands the recognition and earnest attention of the wise and humane legislator.

Good will be accomplished by the enactment of such laws as will restrain vice within the smallest possible limits, and at the same time, by medical inspection, treatment and isolation, reduce the most loathsome diseases to the lowest practicable minimum.

TYPHUS OR SHIP FEVER, AND TYPHOID OR ENTERIC FEVER.

It is not our intention, upon the present occasion, to enter upon a minute history of continued fevers, and show how they have devastated at various times the fairest cities and most populous countries of Europe; and how, even in modern times, they have followed in the wake of great armies, and inflicted untold damage alike upon the victor and the vanquished.

A volume might be written upon the birth of the fearful typhus in the mud hovels, and amongst the oppressed and starving poor of Ireland, and Hungary and Poland; but whatever may be our sympathies for these struggling people, our present duty and our present inquiry, relates to the great city of New Orleans, the commercial emporium of the Mississippi Valley.

It has been asserted that typhus and typhoid fevers are unknown in New Orleans, and elaborate theories have been built upon this false premise; and learned arguments by learned and accomplished physicians have been launched against systems of underground sewerage, and even against the received theory that filth and excrements, when carefully hoarded in our yards and under our houses, may prove detrimental to human health. But to the facts.

TYPHUS, OR SHIP OR FAMINE FEVER IN NEW ORLEANS.

We find the following important data, after careful examination and consolidation of the records of the Charity Hospital of New Orleans, during a period of eighteen years (1842-1860) preceding the recent civil war. There were treated in the Charity Hospital in New Orleans, 7220 cases of ship or typhus fever, of which 1301, or 18 per cent, proved fatal; while during the sixteen years succeeding the civil war (1864-1880) only two cases, both of which proved fatal, were treated in this hospital.

Surely, this is a very remarkable fact. Truly, the prevalence of typhus fever during the eighteen years preceding our civil war, and its almost total absence in the sixteen years following the great civil convulsion, can be referred to well-known causes.

First, typhus fever was imported to New Orleans by means of the emigrant ships, which bore to these hospitable shores the fever and famine-stricken and oppressed inhabitants of Ireland.

Previous to the year 1847, typhus fever does not appear to have made any serious lodgment in the city of New Orleans, although it had been committing its ravages in Europe for centuries before. Thus, in 1841, no case of typhus fever was entered on the records of the Charity Hospital, nor in 1842. In 1843, we find 9; in 1844, 4; in 1845, no case; in 1846, no case; but in 1847, we find the record of 1045 cases; in 1848, 1883; in 1849, 891; and 1850, 1044.

The disease introduced in 1847, both from Mexico (by the United States troops) and from Europe from the fever-stricken and starving districts of Ireland, raged as an epidemic in this city for several years.

We find the following mortality occasioned by typhus fever in New Orleans for the respective years: 1847, 154; 1848, 164; 1850, 199; 1853, 103; 1856, 21; 1857, 8; 1858, 20; 1859, 7; 1860, 10; 1861, 5; 1863, 9; 1864, 11; 1865, 5; 1866, 12; 1867, 23; 1868, 5; 1869, 5; 1870, 13; 1871, 4; 1872, 4; 1873, 5; 1874, 2; 1875, 2; 1876. 2; 1877, 1; 1878, 23; 1879, 0; 1880, 1.

The following practical conclusions may be drawn from the preceding facts in the medical history of New Orleans:

1. Typhus fever was imported into New Orleans in 1847, and prevailed for several years thereafter, causing the death of about 1500 of the inhabitants of New Orleans. The disease was confined chiefly to the poor and ill-fed, as the majority of the deaths occurred in the wards of the Charity Hospital.

2. Quarantine is essential to the protection of New Orleans from the introduction of typhus fever; and to be effective it must be perpetual. The public mind has been so excited and manipulated upon the subject of yellow fever that, in the Mississippi Valley, it has become synonymous with quarantine. The quarantine against yellow fever may be practically limited to six months in the year, embracing that peculiar thermic condition favorable to its lodgment and spread; but typhus fever is not thus limited by climatic changes, but is often developed with most destructive effects in the dead of winter, and may at any time and any season be transported across the ocean in ships.

3. As President of the Board of Health I have held that the quarantine of Louisiana, at the mouth of the Mississippi River should be maintained in an effective condition at all times and under all conditions, and that the inspection of vessels by the quarantine physicians should at all seasons, both summer and winter, be thorough. It is natural that commercial and mercantile men should oppose and endeavor to defeat all measures which appear in any manner to diminish their business or put apparent obstructions in the way of the continuous and rapid accumulation of money and capital; but in the true light of public good and of substantial advancement, the exclusion of foreign pestilence, the preservation of the public health, is the only true road to permanent prosperity.

4. No mere sanitary measures within the limits of the city of New Orleans, will in the absence of an efficient system of inspection and quarantine, exclude such infectious and contagious diseases as typhus fever and small-pox.

5. Typhus fever introduced into New Orleans tends gradually to become extinct; this result should be attributed to the better food, better living, or ventilation of the mass of the inhabitants of this city.

6. The establishment of an extensive system of street railroads, during the past twenty-five years in New Orleans, has without doubt promoted the health as well as the comfort of the people, by scattering the dwellings upon a far greater area and thus promoting ventilation, and preventing crowding.

TYPHOID FEVER.

Typhoid, or enteric fever has been present in New Orleans for an indefinite period, as will be shown by the following statistics: The number of cases of typhoid fever entered in the Charity Hospital in 1841 was 12; 1842, 22; 1843, 4; 1844, 80; 1845, 139; 1846, 195; 1847, 457; 1849, 79.

During a period of eighteen years, 1842-1860, 3144 cases of typhoid fever were treated in the Charity Hospital, 983 or 31.2 per cent of which terminated fatally.

During a period of sixteen years, 1864-1880, following the civil war, only 377 cases, with 180 deaths, 47.7 per cent of typhoid fever were entered upon the records of the Charity Hospital.

During thirty-four years, 1842-1880, 3521 cases and 1163 (33 per cent mortality) deaths were entered upon the records of the Charity Hospital as caused by typhoid fever.

This disease in like manner with typhus fever has diminished since the cessation or great diminution of foreign immigration to New Orleans, which has characterized the close of the great civil convulsion of 1861-1865.

These two diseases, typhus and typhoid fever, figure upon the records of the Charity Hospital during the past thirty-four years, with 10,743 cases, and 2466 deaths.

The mortuary records of New Orleans show the following deaths from typhoid, or enteric fever, for the respective years: 1845, 70 deaths from typhoid fever; 1847, 233; 1849, 178; 1850, 103; 1853, 146; 1856, 108; 1857, 148; 1858, 189; 1859, 214; 1860, 163; 1861, 102; 1863, 257; 1864, 268; 1865, 159; 1866, 116; 1867, 119; 1868, 58; 1869, 63; 1870, 80; 1871, 71; 1872, 67; 1873, 57; 1874, 95; 1875, 57; 1876, 53; 1877, 69; 1878, 74; 1879, 33; 1880, 52.

It is evident from the preceding statistics that New Orleans has not been exempt from typhoid or enteric fever.

It appears to be true, however, that New Orleans, and in fact the entire alluvial portion of Louisiana, suffers less from typhoid fever than more elevated portions of our country.

This comparative exemption has been referred, by some writers, to the absence of underground sewers in New Orleans; but it would rather appear to be due to those peculiar climatic conditions which do not favor the generation and propagation of the typhoid poison.

From the preceding facts, we may draw the following

PRACTICAL CONCLUSIONS.

1. Typhus, or ship fever, can be transferred from one country to another, and is capable of reproducing itself and spreading in populous towns or cities; more especially amongst the poorer classes in crowded houses.

2. Typhoid fever appears to be closely related to climate and soil, and in some instances has been traced to such local causes as the contamination of drinking water with fœcal matter; and whilst facts exist to show that under certain circumstances it may become infectious, this disease is not possessed of contagious qualities to an equal degree with typhus fever.

3. Both typhus and typhoid fever should be embraced in any system of maritime quarantine.

4. The chief means for preventing or arresting typhus or typhoid fever, are free ventilation, full supplies of pure drinking water, abundance of wholesome food, and the prompt removal of garbage and fœcal matters.

PRISONS, POLICE STATIONS AND CHARITABLE INSTITUTIONS AS SOURCES OF DISEASE.

Shortly after my election as President of the Board of Health in April, 1880, I directed the earnest attention of this honorable body to the condition of the prisons, police stations, Insane Asylum, Boys' House of Refuge and Charity Hospital. Again, in the early part of 1881, I agitated this question and brought the attention of the Grand Jury of the parish of Orleans, prominently to the condition of the Parish Prison, police stations and Insane Asylum. Other matters, as the neglected and foul condition of the drainage canals were also urged upon the consideration of the Grand Jury.

I have reason to believe that the agitation of important questions relating to the physical, mental and moral welfare of those accused and convicted of crimes—the innocent as well as the guilty—resulted finally in the establishment of a Commission charged with the investigation of all matters relating to the conduct of prisons, houses of correction and asylums. It is confidently hoped that good will result from the labors of the philanthrophic gentlemen composing the honorable commission.

POLICE STATIONS.

The attention of the Board of Health, and of the administrators of police and public building, have been directed to the structure and conduct of the police stations; to the want of sanitation; to the foul practice of receiving the discharges from the stomach and bowels of prisoners confined in these "dungeons" into open buckets, which are allowed during the entire night to exhale their noxious gases in these confined, badly ventilated cells.

PARISH PRISON.

The discussion of prison discipline and prison reform in New Orleans would cover far more ground than can be embraced in this report. It has engaged my earnest attention, and upon more than one occasion has the Parish Prison of Orleans been thoroughly and carefully investigated.

STATEMENT OF ADMISSIONS AND DEATHS IN PARISH PRISON, PER MONTH, FOR THE YEARS 1856-60.

MONTHS.	1856.				1857.				1858.					1859.								1860.						Totals.	
		Died of				Died of				Died of					Died of								Died of						
	Admitted.	Stabbed.	Not Stated.	Total.	Admitted.	Fracture of Skull.	Not Stated.	Total.	Admitted.	Yellow Fever.	Intemperance.	Executed.	Total.	Admitted.	Pneumonia.	Diarrhœa.	Phthisis.	Intemperance.	Jaundice.	Executed.	Total.	Admitted.	Pneumonia.	Typhoid Fever	Intemperance.	Executed.	Total.	Admitted.	Died.
January	49	..	..	..	225	..	..	..	653	..	..	..	..	580	1	..	..	..	..	..	1	673	..	..	..	2	2	2180	3
February	74	..	..	..	222	..	1	1	555	..	..	1	1	530	..	..	..	..	..	..	..	561	..	..	..	..	..	1942	2
March	123	..	..	..	222	..	..	..	713	..	..	2	2	602	..	1	..	..	..	1	2	620	..	..	..	..	..	2280	4
April	239	..	..	..	172	..	..	..	558	..	1	1	2	503	..	..	..	..	..	..	..	519	..	..	..	..	..	1991	2
May	137	..	..	..	228	..	..	..	416	..	..	..	..	569	..	..	..	..	..	..	..	359	..	..	..	..	..	1709	0
June	171	1	..	1	245	..	..	..	392	..	..	..	..	455	..	..	1	1	..	..	2	368	..	..	1	1	2	1631	5
July	239	..	..	..	231	..	1	1	513	..	..	2	2	463	..	..	..	..	..	..	..	849	1	..	3	..	4	2295	7
August	173	..	..	..	226	..	..	..	366	..	..	..	..	353	..	..	..	..	..	..	..	851	..	..	1	..	1	1969	1
September	210	..	..	..	207	..	1	1	449	2	1	..	3	457	..	..	..	..	..	..	..	789	..	..	..	..	..	2112	4
October	167	..	2	2	178	1	..	1	380	2	..	..	2	432	..	..	..	..	..	..	..	894	..	..	..	..	..	2051	5
November	163	..	..	..	341	..	..	..	445	1	..	..	1	620	..	..	..	2	1	..	3	950	..	..	..	..	..	2519	4
December	205	..	..	..	627	..	..	..	558	..	..	..	..	622	..	..	..	..	..	..	..	1079	..	1	..	..	..	3091	1
Totals	1950	1	2	3	3124	1	3	4	5998	5	2	6	13	6186	1	1	1	3	1	1	8	8512	1	1	5	3	10	25770	38

STATEMENT OF ADMISSIONS AND DEATHS IN PARISH PRISON, PER MONTH, FOR THE YEARS 1866-70.

MONTHS.	1866.				1867.							1868.			1869.			1870.			Totals.	
		Died of				Died of							Died of			Died of			Died of			
	Admitted.	Cholera.	Phthisis.	Total.	Admitted.	Yellow Fever.	Intemperance	Phthisis.	Cholera.	Not stated.	Total.	Admitted.	Pneumonia.	Total.	Admitted.	Small-pox.	Total.	Admitted.	Not stated.	Total.	Admitted.	Died.
January	553	1	1	2	560							623			926	1	1	707	1	1	3,369	4
February	351				554							610			903			678	1	1	3,069	1
March	304				523		1	1			2	572			732			818			2,949	2
April	398				541							568			717			577			2,797	
May	524				499							527			653			756	1	1	2,959	1
June	461				653							475			731	1	1	353			2,673	1
July	401				660					1	1	606			727			467			2,861	1
August	422	2		2	693	1					1	888	1	1	697			523			3,223	4
September	380	8		8	528	3				1	4	811			661			420			2,800	12
October	402	1		1	474	1		1			2	720			653			399			2,648	3
November	515				562				2	2	4	816			622			368			2,883	4
December	527				600		2		1		3	732			807			451			3,117	3
Totals	5,238	12	1	13	6,847	5	3	2	3	4	17	7,948	1	1	8,829	2	2	6,513	3	3	35,375	36

From the preceding statistics the following points are worthy of note:

1. During five years preceding the civil war, 1861–1865, namely: 1856, 1857, 1858, 1859 and 1860, 25,770 persons were admitted into the Parish Prison of Orleans, and that of this number thirty-eight died within the walls of the Bastile. We have no means whatever to determine the number of deaths in the Charity Hospital among the dangerously wounded (stabbed, shot and maimed), poisoned and sick. It is, however, a fact of considerable importance in a sanitary point of view that in 1859 five of the prisoners died within the walls of yellow fever.

It has been affirmed that this disease has never invaded the Parish Prison, and that its exclusion was due to two causes, namely: the isolation (quarantine) of the inmates, and the exhalation of ammonia from the excrements of the bats which inhabit the garret of the building in vast numbers, and also from the urine of the prisoners.

2. During five years following the civil war—1866, 1867, 1868, 1869 and 1870—35,375 prisoners were admitted within the walls of the Parish Prison, of which thirty-six are said to have died. The five years following the war gave a richer harvest of prisoners, by the amount of nearly ten thousand.

During the five years preceding the civil war we find ten deaths credited to the hangman (*executed*). During the five years following the civil war we find not a single death in accordance with the mandates of the law.

Whilst the results of the civil war of 1861–1865 appeared to favor the increase of crime, they also appeared to relax the extreme rigors of the law. Cholera claimed twelve victims in 1866 and three in 1867, and yellow fever occasioned five deaths in 1867, and even small-pox invaded "*the sacred precincts*," and destroyed two of the unfortunate prisoners in 1869.

The subject of the physical, mental and moral treatment of prisoners, in every prison, workhouse and institution for correction and reform, in every parish throughout the State of Louisiana, is worthy of the most serious consideration and investigation on the part of his Excellency the Governor, and the Senate and House of Representative of the State of Louisiana.

THE SICK, DESTITUTE POOR OF NEW ORLEANS.

Some estimate of the amount of unrelieved suffering endured by the destitute poor of New Orleans during sickness, may be formed by the review of the number of deaths occurring in the Charity Hospital and in the various other public and charitable institutions, and more especially from the number of deaths recorded upon the certificates of the coroner.

Thus, during the months of January, February, March and April, 1881, the number of deaths occurring in charitable and public institutions were as follows:

DEATHS IN THE CHARITY HOSPITAL DURING THE MONTHS OF JANUARY, FEBRUARY, MARCH AND APRIL, 1881.

MONTHS.	Whites.	Colored.	Total by Months.
January	37	35	72
February	47	22	69
March	42	28	70
April	30	24	54
Totals	156	109	265

DEATHS IN PUBLIC AND CHARITABLE INSTITUTIONS DURING THE MONTHS OF JANUARY, FEBRUARY, MARCH AND APRIL, 1881.

YEARS.	Different Institutions.	Number of Deaths.
1881	Small-Pox Hospital	1
1881	Hotel Dieu	20
1881	Touro Infirmary	8
1881	St. Vincent's Infant Infirmary	13
1881	Insane Asylum and Louisiana Retreat	19
1881	Parish Prison	10
1881	Orphans' Asylum	5
1881	Other Institutions	28
Totals		104

INQUESTS HELD BY THE CORONER DURING THE MONTHS OF JANUARY, FEBRUARY MARCH AND APRIL, 1881.

MONTHS.	Whites.	Colored.	Total by Months.
January	44	62	106
February	28	44	72
March	47	49	96
April	33	51	84
Totals	152	206	358

It is shown by the preceding table that the total deaths in New Orleans during the first quarter of 1881, in charitable and public institutions and upon Coroner's certificate numbered 727. If the same ratio of deaths to population should hold during the remainder of the year 1881, then the mortality for the entire year would be as follows:

Charitable and Public Institutions	1107
Coroner's Certificates	1074
Total, as estimated for 1881	2181

DEATHS IN THE CHARITY HOSPITAL DURING THE YEAR 1880.

MONTHS.	Whites.	Colored.	Total by Months.
January	44	23	67
February	33	18	51
March	26	13	39
April	43	22	65
May	23	23	46
June	31	16	47
July	27	19	46
August	29	19	48
September	32	15	47
October	40	21	61
November	56	20	76
December	38	26	64
Totals	422	235	657

DEATHS IN PUBLIC AND CHARITABLE INSTITUTIONS DURING THE YEAR 1880.

YEARS.	Different Institutions.	No. of Deaths.
1880	Small-Pox Hospital	1
1880	Hotel Dieu	37
1880	Touro Infirmary	10
1880	St. Vincent's Infant Infirmary	32
1880	Boys' House of Refuge	1
1880	City Insane Asylum and Louisiana Retreat	23
1880	Parish Prison	7
1880	Orphans' Asylum	14
1880	Other Institutions	54
Totals		179

INQUESTS HELD BY THE CORONER DURING THE YEAR 1880.

MONTHS.	Whites.	Colored.	Total by Months.
January	28	49	77
February	35	38	73
March	27	42	69
April	40	39	79
May	32	58	90
June	29	56	85
July	47	37	84
August	42	61	103
September	33	45	78
October	41	52	93
November	46	61	107
December	48	64	112
Total	448	602	1050

From the preceding tables we obtain the general results that, during the year 1880, the deaths in the Charity Hospital and other public and charitable institutions numbered 836; of those recorded on coroner's certificate, 1050; total, 1886 deaths.

Eighteen hundred and eighty-six deaths occurred among the poor and friendless of New Orleans, during the year 1880, out of a grand total of deaths from all causes of 5623. In other words, the deaths among those who availed themselves of public charity, or who were too poor to command medical attention, constituted about one-third, or thirty-three per cent of the deaths from all causes.

It is worthy of note that 1050 *deaths were registered upon the Coroner's certificate; that is, one in about five (5.35) of those who died in New Orleans during* 1880 *perished without any known or recognized medical attention or service.*

It is also worthy of note that the deaths upon Coroner's certificates among the colored population greatly outnumber those among the whites, in the proportion of 602 among the former to 448 among the latter; that is, the number of Coroner's inquests were, relatively to the population, more than six times more numerous among the colored population.

Such facts should arrest the attention and engage the action and earnest efforts of philanthropists.

Upon mature deliberation the following measures appear to afford the best means of mitigating a portion, at least, of the suffering among the destituted sick poor of New Orleans:

First—The employment, at a reasonable compensation, of one or more physicians in each ward, whose duty it shall be to attend to the sick poor.

Second—The establishment of one or more depots of drugs in each ward, under the charge of competent druggists, to be dispensed upon the requisition and certificate of licensed physicians.

In the present condition of the public finances, both City ond State, it is not probable that any steps can be taken to accomplish these results by legislation; but it may be hoped that the good and philanthropic may be moved to assist in accordance with their means and benevolent impulses.

INFLUENCE OF RACE UPON THE RATE OF MORTALITY IN NEW ORLEANS.

In the consideration of the relations of endemic and epidemic diseases to the mortality of special cities and countries, it is essential that the death-rate of the distinct races should be determined. In New Orleans we have two great divisions into the white and black, or colored race. The latter terms are almost absolutely synonymous with the negro races. The mortality of New Orleans has not as yet been perceptibly affected by the copper-colored immigrants of Asia.

From the following tables we gather that, during the series of thirty-one years embraced in the period extending from 1845-1881, inclusive, the

average annual death-rate, per 1000 inhabitants, amongst the whites of New Orleans was 39.69, and amongst the black or colored race 47.13; and the annual death-rate for both whites and blacks, 41.41.

It is worthy of note that from 1845 to 1871, the still-born were included in the total deaths. Notwithstanding the greater liability of the white race to yellow fever, and the heavy mortality occasioned during epidemic years; nevertheless the annual death-rate amongst the colored race for the entire series was 7.44 greater than that of the white race.

The rate of mortality in New Orleans has been materially affected by its epidemics of yellow fever, and this movement has been due chiefly to the destructive effects of this disease upon the white race. Thus in 1847, the death-rate per annum, per 1000, was: whites 70.86, colored 37.08; 1853, whites 124.68, colored 48.98; 1867, white 56.79; colored 47.80; 1878, whites 52.08, colored 39.0. The year 1858, however was an exception to the rule, that in years of epidemics—yellow fever—the mortality is largely in excess of the whites, for we find the total death-rate to be 72.70, whites 69.64, colored 89.37, per 1000 inhabitants.

If we exclude the year 1878, there has been a marked diminution of the death-rate amongst both whites and blacks in New Orleans since 1867, or during the past fourteen years, the mortality amongst the colored race, however, is far higher than is comportable with an improved mental, moral, physical and sanitary condition of this race.

We have the relative mortality of the white and black races presented in the following table, embracing a series of years, from 1845 to 1881, inclusive:

VITAL AND MORTUARY STATISTICS OF NEW ORLEANS, LA.

TABLE ILLUSTRATING COMPARATIVE MORTALITY OF THE WHITE AND BLACK RACES IN NEW ORLEANS, DURING A SERIES OF YEARS, 1845–1881, INCLUSIVE CONSOLIDATED FROM THE RECORDS OF THE BOARD OF HEALTH, UNDER THE DIRECTION OF JOSEPH JONES, M. D.

YEARS.	Population of New Orleans.			No. of Deaths in New Orleans.			Death-rate per 1000, per annum.		
	Total.	White.	Colored.	Total.	White.	Colored.	Total.	White.	Colored
1845	114,442	79,698	34,744	2,783	2,001	782	24.32	25.10	22.50
1847	120,890	88,530	32,360	7,499	6,274	1,225	62.03	70.86	37.08
1849	127,340	97,362	29,978	9,862	7,976	1,886	77.44	81.92	62.91
1850	130,565	101,778	28,787	7,819	6,319	1,500	59.88	62.08	52.10
1852	138,187	110,342	27,845	8,693	7,499	1,199	62.90	67.91	43.04
1853	141,988	114,624	27,374	15,633	14,292	1,341	110.09	124.68	48.98
1856	153,431	127,470	25,961	5,200	4,274	926	33.89	32.98	35.66
1857	157,242	131,753	25,489	5,581	4,593	988	35.49	34.86	38.07
1858	161,053	136,036	25,017	11,710	9,474	2,236	72.70	69.64	89.37
1859	164,864	140,319	24,545	6,847	4,712	2,135	41.53	33.58	86.98
1860	168,675	144,601	24,074	7,341	6,070	1,271	43.51	41.99	52.79
1861	170,949	144,233	26,716	5,449	4,456	993	31.87	31.58	37.16
1863	175,497	143,497	32,000	7,258	5,353	1,905	41.35	37.30	59.53
1864	177,768	143,129	34,639	8 864	6,032	2,832	49.86	42.14	81.75
1865	180,043	142,761	37,282	7,020	4,756	2,264	38.99	33.31	60.88
1866	182,318	142,393	39,925	7,754	5,236	2,518	42.52	36.77	65.56
1867	184,593	142,025	42,568	10,096	8,066	2,030	54.69	56.79	47.80
1868	186,068	141,657	44,411	5,343	3,612	1,731	28 60	25.49	38.97
1869	189,143	141,290	47,853	6.001	3,857	2,144	31.73	27.29	44.80
1870	191,418	140,923	50,495	7,391	4,755	2,636	38.61	33 74	52.20
1871	193,412	142,695	50,717	6,059	3 890	2,169	31.32	27.26	42.76
1872	196,406	144,437	51,969	6,122	3,943	2,179	31.17	27.29	41.93
1873	198,900	146,179	52,721	7,505	4,794	2,711	37.73	32.79	51.42
1874	201,394	147,921	53,473	6,798	4.368	2,430	33 75	29.53	45.44
1875	203,888	149,663	54,225	6,117	3,934	2,183	30.00	26.28	40.25
1876	206,382	151,406	54,976	6,257	3,917	2 340	30.31	25.87	42.56
1877	208,876	153,149	55,727	6,708	3,976	2,732	32.11	25.96	49.02
1878	211,371	154,892	56,479	10,318	8,062	2,256	48.81	52.05	39.94
1879	213,865	156,635	57,230	5,122	3,267	1,855	23.95	20.85	32.41
1880	216,140	158,379	57,761	5,623	3,637	1,986	26.01	22.96	34.38
1881	218,500	160.000	58,500	6,406	4,127	2,279	29.31	25.79	38.95
Total	5,485,618	4,219,777	1,265,841	227,179	167,517	59,662	41.41	39.69	47.13

The mortality from 1845 to 1871, inclusive, comprises "Still-born."

The mortality records from 1869 to 1876 give a certain number of deaths, "Color not stated." These have been divided in the above table by estimating two-thirds to be white, and one-third colored.

The figures of "Population" are taken from the United States census of 1840, 1850, 1860, 1870 and 1880, and those of the intermediate years have been derived from these by calculation.

Population of 1881 is estimated.

COLOR—VITAL AND MORTUARY STATISTICS OF NEW ORLEANS, LA., 1847-1881.

COLOR.	1847	1849	1850	1853	1856	1857	1858	1859	1860	1863	1864	1865	Total 12 Years.
Whites	6274	7974	6319	14292	4274	4593	10592	5781	5884	5015	6032	4688	81718
Blacks	1220	1888	1500	1341	926	988	1118	1066	1179	1735	2832	2231	18024
Not stated	5								278	508		101	892
Total	7499	9862	7819	15633	5200	5581	11710	6847	7341	7258	8864	7020	100634

COLOR.	1866	1867	1868	1869	1870	1871	1872	1873	1874	1875	1876	1877	1878	1879	1880	1881	Total 16 Years	Grand Total 28 Years.
Whites	4984	7866	3503	3757	4602	3782	3871	4739	4299	3869	3847	3976	8062	3267	3637	4127	72188	154906
Blacks	2392	1931	1676	2092	2560	2115	2143	2684	2395	2151	2305	2732	2256	1855	1986	2279	35552	53576
Not stated	378	299	164	152	229	162	108	82	104	97	105						1880	2772
Total	7754	10096	5343	6001	7391	6059	6122	7505	6798	6117	6257	6708	10318	5122	5623	6406	109620	210254

SEX—VITAL MORTUARY STATISTICS OF NEW ORLEANS, LA., 1849-1881.

SEX.	1849	1850	1853	1856	1857	1858	1859	1860	1863	1864	1865	Total 11 Years.
Males	6458	4802	9765	3108	3245	7675	4193	4193	4405	4895	3846	56585
Females	3404	3017	5452	2092	2336	4035	2654	2654	2578	3739	2963	34924
Not stated			416					494	275	230	211	1626
Total	9862	7819	15633	5200	5581	11710	6847	7341	7258	8864	7020	93135

SEX.	1866	1867	1868	1869	1870	1871	1872	1873	1874	1875	1876	1877	1878	1879	1880	1881	Total 16 years	Grand total 27 years.
Males	4372	6239	2844	3275	4466	3530	3526	4396	3982	3416	3381	3650	6193	2969	3053	3593	62785	120370
Females	3052	3566	2292	2598	2838	2481	2568	3070	2798	2666	2623	3058	4125	2153	2570	2813	45271	80195
Not stated	330	291	207	128	87	48	28	39	18	35	253						1564	2190
Total	7754	10096	5343	6001	7391	6059	6122	7505	6798	6117	6257	6708	10318	5122	5623	6406	109620	202755

AGES—VITAL AND MORTUARY STATISTICS OF NEW ORLEANS, LOUISIANA, 1849-1881.

AGES.	1849	1850	1853	1856	1857	1858	1859	1860	1863	1864	1865	Total 11 Years.
Under 1 year	1232	1323	1954	1608	1568	1944	1609	1467	952	1365	1375	16397
From 1 to 2 years	903	937	1296	434	468	603	538	668	694	806	578	13053
From 2 to 5 years				337	475	1001	505	581	643	962	624	
From 5 to 10 years	342	249	499	155	205	365	326	322	279	595	446	3783
From 10 to 15 years	530	126	2085	71	117	293	153	115	140	255	194	6300
From 15 to 20 years		279		87	130	579	231	175	274	280	189	
From 20 to 25 years	1991	1342	4514	298	308	1539	445	400	782	803	650	16548
From 25 to 30 years				431	408	1486	549	602				
From 30 to 40 years	1603	1224	2093	730	768	2001	1025	956	725	780	728	12633
From 40 to 50 years	833	615	901	483	523	1040	762	701	595	717	649	7819
From 50 to 60 years	382	321	448	253	297	463	331	378	367	600	495	4335
From 60 to 70 years	192	191	206	131	155	216	196	216	216	358	301	2398
From 70 to 80 years	101	100	84	80	97	118	95	99	155	183	159	1270
From 80 to 90 years	48	44	40	55	38	45	51	47	84	110	66	628
From 90 to 100 years	20	19	18	20	18	11	21	23	37	38	34	259
100 years and upwards	3	1	1	2	6	6	10	3	14	21	12	79
Age unknown	1682	1048	1495	25				587	1284	991	520	7633
Total	9892	7819	15633	5200	5581	11710	6847	7341	7258	8864	7020	93135

AGES.	1866	1867	1868	1869	1870	1871	1872	1873	1874	1875	1876	1877	1878	1879	1880	1881	Total 16 Years.	Grand Total, 27 Years.
Under 1 year	1524	1863	1331	1385	1587	1536	1367	1539	1396	1262	1193	1228	1260	1115	1247	1231	22224	38621
From 1 to 2 years	518	529	364	472	410	324	405	507	399	403	494	437	455	261	373	394	6745	27348
From 2 to 5 years	510	566	229	493	353	204	337	516	449	420	504	441	1523	227	388	390	7550	
From 5 to 10 years	360	491	152	201	180	126	162	299	251	274	273	208	693	132	211	240	4353	8136
From 10 to 15 years	172	253	90	105	149	108	114	153	123	139	138	170	288	97	115	150	2364	12175
From 15 to 20 years	244	466	132	146	253	153	170	188	224	203	200	272	416	127	129	188	3511	
From 20 to 25 years	1069	942	221	249	491	336	327	519	372	360	287	916	1549	520	281	334	13896	30444
From 25 to 30 years		1039	282	280	582	370	368	514	383	351	346				267	341		
From 30 to 40 years	991	1441	588	581	929	753	750	880	830	613	644	709	1392	588	580	684	12953	25586
From 40 to 50 years	737	946	488	570	754	667	675	775	740	630	637	757	977	594	601	705	11253	19072
From 50 to 60 years	520	604	386	445	559	509	529	603	579	519	536	571	706	426	534	638	8664	12999
From 60 to 70 years	333	344	266	276	348	320	365	404	467	424	420	445	466	439	449	576	6342	8740
From 70 to 80 years	147	163	136	133	189	166	220	215	227	230	261	273	313	313	234	337	3557	4827
From 80 to 90 years	51	70	62	45	64	74	62	77	86	78	99	99	121	105	131	131	1355	1983
From 90 to 100 years	19	12	22	30	24	16	34	38	26	21	29	52	44	46	63	42	699	1037
100 years and upwards	10	10	9	15	12	17	18	16	19	11	24					20		
Age unknown	549	357	585	575	509	320	219	262	227	178	172	30	115	32	20	5	4154	11787
Total	7754	10096	5343	6001	7391	6059	6122	7505	6798	6117	6257	6708	10318	5122	5623	6406	103620	202755

VITAL AND MORTUARY STATISTICS OF NEW ORLEANS, 1881

DEATHS FROM THE PRINCIPAL CAUSES IN THE DIFFERENT NATIONALITIES, 1881—CONSOLIDATED FROM THE RECORDS OF THE BOARD OF HEALTH, UNDER THE DIRECTION OF JOSEPH JONES, M. D.

NATIVITIES.	Yello Fever.	Malarial Fever.	Typhoid Fever.	Scarlet Fever.	Measles.	Diphtheria.	Diarrhœal Diseases.	Phthisis Pulmonalis.	Pneumonia.	Congestion of the Brain.	Sunstroke.	Bright's Disease.	Cancerous Diseases.	Suicide.	Small-pox.	Total.
Austria and Hungary		1	1					2	1							5
Belgium							1	1								2
British America			1					8	1		1					11
China								5		1						6
Denmark		1					2			1						4
France		10	3	1			17	46	4	5	5	5	7	5	1	109
Germany		36	3	2	2		35	63	21	17	6	5	21	6		217
Great Britan and Ireland		52	1				73	84	29	23	5	10	24	2		303
Greece													1			1
Holland		1														1
Italy		5	2			2	8	7	2	2		1	2			31
Louisiana		240	43	188	24	83	557	455	209	73	5	60	42	10		1989
Mexico			1					2	1			1	1	1		7
Norway and Sweden		1	1					3	1	1						7
Portugal								1								1
Russia							4									4
South America							1									1
Spain		2	3				2	9	3	1	1	2			1	24
Switzerland			1				4	5		1						11
United States (not Louisiana)		46	6	6		6	88	203	54	28	10	30	29	8	3	517
West Indies		1				1	3	6	1	1						13
Total		396	66	197	26	92	795	900	327	154	33	114	127	32	5	3264

INFLUENCE OF SEX UPON THE MORTALITY OF NEW ORLEANS.

In the following table, the relative mortality amongst the different sexes (males and females) in New Orleans, during a period of twenty-six years (1849–1881) is given. The per cent relates to the relations of deaths in the two sexes to the total deaths, and not to the population.

We observe that the mortality during the entire series of years has been relatively greatest amongst the males.

This is due to several causes : 1. The greater exposure of the male race to the changes of climate, and to violent deaths by accidents, by contagious and infectious diseases. 2. The large number of seamen and merchants frequenting New Orleans from all parts of the habitable globe. 3. The large number of paupers and sick laborers, transported from surrounding States to the Charity Hospital.

VITAL AND MORTUARY STATISTICS OF NEW ORLEANS—TABLE ILLUSTRATING THE NUMBER OF DEATHS, AND PERCENTAGE OF DEATHS, AMONG THE DIFFERENT SEXES (MALE AND FEMALE) IN NEW ORLEANS.

Year	Number of Deaths.			Per cent of Deaths.	
	Total.	Male.	Females.	Male.	Females.
1849	9862	6458	3404	65.5	34.5
1850	7819	4802	3017	61 4	38 6
1853	15633	9973	5660	63 8	36.2
1856	5200	3108	2092	59.7	40.3
1857	5581	3245	2336	58.1	41.9
1858	11710	7675	4035	65.5	34.5
1859	6847	4193	2654	61.2	38.8
1860	7341	4440	2901	60.4	39.6
1863	7258	4543	2715	62.6	37.4
1864	8864	5010	3854	56.5	43.5
1865	7020	3952	3068	56.3	43.7
1866	7754	4537	3217	58.5	41.5
1867	10096	6485	3611	64.2	35 8
1868	5343	2948	2395	55.2	44.8
1869	6001	3339	2662	55.6	43.4
1870	7391	4510	2881	61.0	39.0
1871	6059	3554	2505	58.6	41.4
1872	6122	3540	2582	57.8	42.2
1873	7505	4416	3089	58.8	41.2
1874	6798	3991	2807	58.7	41.3
1875	6117	3434	2683	56.1	43 9
1876	6257	3508	2749	56.0	44.0
1877	6708	3650	3058	54.4	45.6
1878	10318	6193	4125	60.0	40.0
1879	5122	2969	2153	57.9	42 1
1880	5623	3053	2570	54.4	45.6
1881	6406	3593	2813	.....	.....

INFLUENCE OF THE EPIDEMIC AND ENDEMIC CAUSES OF DISEASE AND DEATH UPON HUMAN LIFE AT THE DIFFERENT AGES OR PERIODS.

In the following table the mortality at different periods of life in New Orleans, for a series of years, has been calculated with reference to the total mortality :

VITAL AND MORTUARY STATISTICS OF NEW ORLEANS, LOUISIANA—1849 TO 1881.

TABLE ILLUSTRATING THE RELATIVE MORTALITY IN THE DIFFERENT PERIODS OF LIFE, CONSOLIDATED FROM THE ORIGINAL RECORDS OF THE BOARD OF HEALTH, UNDER THE DIRECTION OF JOSEPH JONES, M. D.

AGES.	1849	1850	1853	1856	1857	1858	1859	1860	1863	1864	1865	1866	1867	1868	1869	1870	1871	1872	1873	1874	1875	1876	1877	1878	1879	1880	1881	Average during 27 years.
Under 1 year	12.5	16.9	12.5	30.9	28.1	16.5	23·5	20 0	13.1	15.4	19.6	19.6	18.4	24.9	23.7	21.5	26.3	22.3	20 5	20.5	20.6	19.1	18.3	12.2	21.7	22.2	19.1	20.0
From 1 to 2 years	9.2	12.0	8.3	8.3	8.4	5.2	7.9	9.1	9.5	9.1	8.2	6.6	5.2	6.8	7.8	5.5	5.3	6 6	6.8	5.9	6.6	7.9	6.5	4.4	7.1	6.6	6 1	13.7
From 2 to 5 years				6 5	8.6	8.5	7.4	7.9	8.8	10.9	8.8	9.6	5.6	4.3	8.2	4.8	3.4	5.5	6.9	6.6	6.8	8.1	6.6	14.8	4.4	6.7	6.1	
From 5 to 10 years	3 4	3.2	3.2	3.0	3.7	3.1	4.7	4.3	3.9	6.7	6.3	4.6	4.9	3.0	3.3	2.4	2.1	2.6	4.0	3.7	4.5	4.3	4.6	6.7	2.6	3.8	3.8	3.9
From 10 to 15 years	5.3	1.6	13.3	1.4	2.1	2.5	2.3	1.6	1.9	2.9	2.7	2.2	2.5	1.6	1.7	2.0	1.8	1.9	2.0	1.8	2.3	2.2	2.5	2.8	1 9	2.1	2.3	5.5
From 15 to 20 years		3.6		1.7	2 4	4.9	3.4	2.4	3.7	3.2	2.7	3.2	4.7	2.4	2.4	3.4	2.5	2 8	2.5	3.3	3.3	3.2	4.1	4.0	2.5	2.3	3.0	
From 20 to 25 years	20.2	17.1	28.9	5.7	5.5	13.1	6.5	5.4	10.7	9.1	9.3	13 8	9 3	4.1	4.1	6.6	5.6	5.3	6.9	5 5	5.9	4.6	13.7	15.0	10.2	5.0	5.2	13.7
From 25 to 30 years				8.3	7.3	12.7	8.0	8.2					10.3	5.2	4.6	7.9	6.1	6.0	6 8	5 6	5.8	5.5				4.8	5 3	
From 30 to 40 years	16.2	15.6	13.4	14.0	13.7	17.2	15.0	13.3	10.0	8.9	10.3	12.8	14.3	11.0	9.7	12 6	12 4	12 2	11.8	12.2	10.0	10.3	10.6	13.5	11.5	10.3	10.7	12.4
From 40 to 50 years	8.3	7.8	5 8	9.3	9.3	8.8	11 1	9.6	8.2	8.1	9.3	9.5	9.4	9.1	9.5	10.2	11.0	11.0	10.3	11.0	10.3	10.2	11.3	9.5	11.6	10.7	11.0	9.7
From 50 to 60 years	3.8	4.1	2.8	5.0	5.3	3.9	4.8	5.1	5.1	6.7	7.1	6.7	5 9	7.2	7.6	7.6	8.4	8.7	8.0	8 5	8.5	8.6	8.6	6.9	8.3	9.5	9.9	6.8
From 60 to 70 years	1.9	2.4	1.3	2 5	2.8	1.8	2.9	2.9	3.3	4.0	4.3	4.3	3.4	5.0	4.6	4.7	5.3	6.1	5.4	6.9	6.9	6.7	6.7	4.5	8.6	8 0	9.0	4 7
From 70 to 80 years	1.0	1.2	.5	1.5	1.7	1.0	1.4	1.3	2.1	2.1	2.3	1.9	1.6	2.6	2.2	2.5	2.7	3.6	3.0	3.3	3.7	4.2	4.2	3.0	6 1	4.2	5.3	2.6
From 80 to 90 years	.5	.5	.3	1.1	.7	.4	.7	.6	1.1	1.2	1.0	.7	.7	1.2	.8	.8	1.2	1.0	1.0	1.3	1.3	1.6	1.1	1.2	2.6	2 3	2.1	1.2
From 80 to 100 years	.2	.2	.1	.4	.3	.1	.3	.3	.5	.4	.5	.3	.1	.4	.5	.3	.3	.5	.5	.3	.3	.4	.8	.4	.9	1.1	.7	.3
100 years and upwards	.1	.0	.0	.0	.1	.1	.1	.0	.2	.2	.2	.1	.1	.2	.3	.2	.3	.3	.2	.3	.2	.4					.3	
Unknown age	17.4	13.8	9.6	.4				8.0	17.9	11.1	7.4	7.1	3.6	11.0	9.0	7.0	5.3	3.6	3.4	3 3	3.0	2.7	.5	1.1	.6	.4	.1	5.4

VITAL AND MORTUARY STATISTICS OF NEW ORLEANS, 1881.

MORTALITY FROM SOME OF THE PRINCIPAL DISEASES, CLASSIFIED ACCORDING TO AGE AND COLOR, DURING THE YEAR 1881, CONSOLIDATED FROM THE RECORDS OF THE BOARD OF HEALTH, UNDER THE DIRECTION OF JOSEPH JONES, M. D.

DISEASES.	Under 1 Year.		1 to 2 Years.		2 to 5 Years.		5 to 10 Years.		10 to 15 Years.		15 to 20 Years.		20 to 30 Years.		30 to 40 Years.		40 to 50 Years.		50 to 60 Years.		60 to 70 Years.		70 to 80 Years.		80 to 90 Years.		Above 90 Years		Total of Colors.		Total, both Colors.
	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	W.	C.	
Yellow Fever	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Malarial Fevers	19	18	10	10	20	12	15	7	14	10	21	12	37	13	35	13	33	13	27	6	16	8	8	6	1	1	1	....	267	129	396
Scarlet Fever	5	2	15	6	76	15	45	6	10	8	3	....	4	....	2	....	....	....	....	....	....	....	....	....	....	....	....	....	160	37	197
Typhoid Fever	1	....	1	2	3	....	2	1	6	6	10	4	14	3	4	5	....	....	3	....	1	....	....	....	....	....	....	....	45	21	66
Measles	4	....	8	2	5	2	3	1	....	....	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	21	5	26
Small-pox	....	....	....	....	....	....	....	....	....	....	....	....	1	1	1	....	....	1	1	....	....	....	....	....	....	....	....	....	3	2	5
Diphtheria	5	3	7	1	27	5	27	4	8	1	1	....	1	2	....	....	1	....	....	....	....	....	....	....	....	....	....	....	77	15	92
Diarrhœal Diseases	196	56	72	38	25	27	13	10	9	3	4	4	32	17	29	20	49	17	64	18	40	20	18	5	3	1	....	2	557	238	795
Congestion of the Brain	18	4	7	....	4	1	3	2	1	2	1	2	5	4	11	8	26	2	18	3	16	1	5	4	2	4	....	....	118	36	154
Consumption	2	2	1	2	2	7	1	7	2	10	30	26	133	106	135	94	90	64	65	38	40	24	9	7	1	....	1	1	512	388	900
Pneumonia	31	37	17	13	11	13	5	5	2	2	4	5	15	23	10	19	15	14	20	14	11	9	8	8	5	2	4	....	128	169	327
Bright's Diseases	....	....	....	....	1	....	1	1	....	....	4	1	8	4	14	6	11	10	14	10	13	7	2	4	1	1	....	1	69	45	114
Cancerous Diseases	....	....	....	....	....	....	....	1	....	....	1	....	....	3	8	....	18	12	27	14	19	8	9	4	3	....	....	....	85	42	127
Suicides	....	....	....	....	....	....	....	....	....	....	2	....	5	....	11	1	7	....	5	....	1	....	....	....	....	....	....	....	31	1	32
Sunstroke	....	....	....	....	....	....	....	....	....	1	....	....	3	1	8	....	10	1	6	2	....	....	1	....	....	....	....	....	28	5	33
Total	284	138	138	74	184	82	115	45	52	43	82	54	258	182	268	166	260	134	250	105	157	77	60	38	16	9	6	4	2131	1193	3264

It will be observed that in an average of twenty-seven years, 20 per cent of the deaths in New Orleans occur in infants under one year of age, and 13.7 per cent between one and five years, 3.9 per cent between five and ten years, and 5.5 per cent between ten and twenty years.

Nearly one-half, or more exactly 43.1 per cent, of the deaths in New Orleans occur between the period of birth and the age of twenty years.

The relative mortality in New Orleans between twenty and forty years, and in the most vigorous and active period of life, is heavy (twenty to thirty years, 13.7 per cent; thirty to forty years, 12.4 per cent), reaching 26.1 per cent of the entire mortality.

Without doubt this large mortality, from twenty to forty years, is due to the influx of men in the prime of life, engaged in commercial and maritime pursuits, and the necessary exposure in this hot, moist climate.

Yellow fever occasions a heavier mortality amongst men than women, and amongst men at that period of life, when their habits are most active, and their exposure to the vicissitudes of climate greatest.

A just estimate of the progressive increase as well as the relative salubrity of cities and countries might be based upon the number of marriages and births to the population.

To reason upon such statistics, we must be assured of their accuracy. All the marriages and all the births should be recorded.

In New Orleans, certain conditions exist, which render the statistics relating to the record of births and marriages valueless for purposes of scientific deduction, as the rate of increase or decrease of the population of New Orleans:

1. The Act of 1877, which transferred the duty of registering marriages and births to the Board of Health, is defective in that it inflicts no fine for failure; and provides no mode in which parties failing to report either marriages or births, shall be punished.

2. A large proportion of the population of New Orleans, is composed of colored people in the proportion, according to the United States census of 1880, of 57,748 colored to 158,395 white. It is not to be supposed that a race so recently emancipated from slavery, should appreciate the great advantages afforded by the legal record in the public archives of marriages and births.

3. We have shown that over one third of the deaths recorded in New Orleans for 1881, either occurred in charitable institutions, or were certified to by the coroner. If one-third of the inhabitants of New Orleans are too poor to provide either the means of medical attendance or proper shelter and food during sickness, it is not to be supposed that they should possess either the means or the intelligence to record marriages and deaths.

4. The legitimacy of a birth does not depend upon its public registration.

5. The legality of a marriage does not depend, in the United States of America, upon its mere registration in the public archives.

The following statistics embrace the total number of births and marriages recorded at the office of the Board of Health of the State of Louisiana, during the year 1881:

VITAL STATISTICS OF NEW ORLEANS, 1881—MARRIAGES AND BIRTHS BY MONTHS, CLASSIFIED ACCORDING TO COLOR AND NATIVITY IN NEW ORLEANS, DURING THE YEAR 1881. CONSOLIDATED FROM THE ORIGINAL RECORDS OF THE BOARD OF HEALTH, UNDER THE DIRECTION OF JOSEPH JONES, M. D.

MONTH.	Both whites.	Both colored.	Husband alone white.	Husband alone colored.	Both United States.	Both foreign.	Husband alone United States	Husband alone foreign.	Total.
January	115	39	.....	.....	114	10	9	12	145
February	98	34	.....	.....	106	21	2	3	132
March	82	18	.....	.....	78	11	2	9	100
April	74	15	.....	.....	69	12	5	3	89
May	68	11	.....	.....	61	13	2	3	79
June	87	17	.....	.....	85	13	5	1	104
July	59	9	.....	.....	54	11	1	2	68
August	80	12	.....	.....	74	12	3	4	92
September	95	17	.....	.....	84	17	6	5	112
October	89	13	.....	.....	88	7	1	6	102
November	101	26	.....	.....	100	14	6	7	127
December	122	21	.....	.....	113	21	3	6	143
Total	1070	223	.....	.....	1026	162	44	61	1292

VITAL STATISTICS OF NEW ORLEARNS, 1881—BIRTHS BY MONTHS, CLASSIFIED ACCORDING TO COLOR, SEX AND NATIVITY OF PARENTS, IN NEW ORLEAS, DURING 1881.

MONTH.	Color.		Sex.		Nativity of Parents.				
	Whites.	Colored.	Males.	Females.	Both United States.	Both foreign.	Father alone Native.	Father alone Foreign.	Total births by months
January	246	37	135	148	158	64	15	46	283
February	257	40	172	125	172	69	11	45	297
March	264	41	454	151	201	54	12	38	305
April	203	51	142	112	153	57	11	33	254
May	196	21	118	99	125	41	5	46	217
June	173	18	93	98	93	59	8	31	191
July	232	32	117	147	133	52	14	65	264
August	225	26	125	126	157	39	3	52	251
September	193	26	101	118	123	53	8	35	219
October	158	18	87	89	103	41	12	21	176
November	193	20	107	106	109	38	17	49	213
December	137	27	77	87	84	41	7	32	164
Total	2477	357	1428	1406	1610	608	123	493	2834

It will be observed that only 1293 marriages were recorded in 1881, of which 1070 were white and 223 colored; during the same period, 2834 births, of which 2477 were white, and only 357 colored. The white children recorded were eight times as numerous as the colored; although the population is in the ratio of about three whites to one colored.

In 1880, the records were very similar in the general results to those of 1881: thus, the marriages recorded, whites 1040, colored 249; total 1298; births, whites 2442; colored 196; total 2738.

According to the statistics the births in New Orleans in 1881 and 1880, did not equal one-half the mortality. Such results are evidently only partial and incapable of furnishing data for careful calculation, as to the rate of increase of New Orleans, by the inherent energies and multiplication by birth of the inhabitants.

How shall full accurate statistics of the births and marriages be attained?

The law is defective, and although on the one hand the great advantages of a correct registration of births and marriages is appreciated by the in-

telligent and virtuous citizens, and although as President of the Board of Health, I have endeavored to perfect the registration, by using the sanitary police as mediums of information, and by circulars to physicians, midwives, clergymen and recorders; at the same time the results have not been satisfactory.

The mere appendage of penalties to the law, as it stands, would not secure a full registration of marriages and births amongst the poor and ignorant; and the difficulty would be solved by an annual sanitary census of the entire population. The Board of Health is without the necessary funds for such an undertaking.

PREVENTABLE CAUSES, OF DISEASE AND DEATH. INTRA-MURAL SEPULCHRE IN NEW ORLEANS, EFFECTS OF THE MODE AND PLACE OF BURIAL UPON THE HEALTH OF THE INHABITANTS, RESULTS OF INSPECTION OF THE VARIOUS CEMETERIES OF NEW ORLEANS. STATISTICS OF BURIALS IN THE CEMETERIES OF NEW ORLEANS. POISON SUICIDE, VIOLENCE, MURDER, ACCIDENTS, DROWNING, STARVATION, INTEMPERANCE, DELIRIUM-TREMENS, MANIA A POTU, INSANITY, NUMBER OF CASES OF POISONING ACCIDENTAL OR INTENTIONAL IN NEW ORLEANS.

INTRA-MURAL SEPULCHRE IN NEW ORLEANS, EFFECTS OF THE MODE AND PLACE OF BURIAL OF THE DEAD UPON THE HEALTH OF THE INHABITANTS.

The subject of the effects of *Intra-Mural* sepulchre, is of the greatest importance to the health and welfare of the citizens of New Orleans, not only from the deleterious effects of the products of putrification in all places, under all circumstances, but more especially from the peculiar topographical situation, the great commercial importance, and the warm, moist climate of the delta of the Mississippi.

In order to obtain data for intelligent action upon this important subject by the General Assembly of Louisiana, and the Common Council of New Orleans, the President of the Board of Health, instituted a careful inspection of all cemeteries within the limits of the Parish of Orleans.

The following public and private cemeteries and burial grounds are located on the east bank of the Mississippi river, within the parish of Orleans.

IN NEW ORLEANS, LOUISIANA, PUBLIC AND PRIVATE CEMETERIES AND BURIAL GROUNDS.

St. Louis No 1, Second District, bounded by North Basin, North Liberty, Conti and St. Louis streets.
St. Louis No. 2, Second District, bounded by Customhouse, St. Louis, Claiborne and Robertson,
St. Louis No. 3, Second District, bounded by North Basin, St. Louis, Conti and North Liberty. One square called American Cemetery.
Lafayette No. 1, Fourth District, bounded by Washington, Prytania, Coliseum and Sixth. One square.
Lafayette No. 2, Fourth District, bounded by Washington, South Basin, St. Denis and Sixth. One square.
Valence Street Cemetery, Sixth District, bounded by Valence, Bordeaux, Rampart and Dryades. One square.
Carrollton Cemetery, Seventh District, bounded by Adams, Lower Line and Seventh and Eighth streets. Four squares.

St. Joseph, Fourth District, bounded by Washington, St. David, South Liberty and Sixth. Two squares.
St. Vincent, Sixth District, bounded by St. David, Green and St. Patricks. Three squares.
Locust Grove Cemeteries Nos. 1 and 2, Fourth District, bounded by Locust, Freret and Sixth and Seventh streets.
St. Vincent de Paul, Third District, bounded by Louisa, Piety, Urquhart and Villere. One square.
Girod Cemetery, First District, bounded by South Liberty, Perilliat, Cypress and Magnolia streets : 250 feet wide and 400 feet deep.
Holt's Cemetery, five to six acres, First District.
Hebrew Cemetery, First District, bounded by Elysian Fields and Gentilly road ; one square.
Hebrew Cemetery, called Dispersed of Israel; First District, on Canal street, between Anthony and Matairie Ridge, 250 feet square.
Polish Hebrew, called also Jewish Rest; First District, on Canal street, opposite Dispersed of Israel.
Hebrew, called Hebrew Place of prayer ; Sixth District, on Joseph street.
German Lutheran, Sixth District on Canal, between Anthony and Bernadotte street, one square and four lots for burial rest.
Odd Fellows, corner Canal and Metairie streets, 360 feet square.
Charity Hospital No. 1, on Canal, between Anthony and Metiarie streets ; 200 feet wide 1600 feet square. exclusive for Hospital.
Charity Hospital No. 2, Metairie Road, between Bienville and Canal streets, one square.
Masonic, on Bienville, between Metairie and Anthony streets, three squares.
St. Patricks No. 1, on Canal, between Anthony and Metairie streets, 400 feet wide and 1500 feet long.
St. Patricks No 2, on Canal, between Anthony and Metairie streets, opposite No. 1.
St. Patricks No. 3, on Metairie, between Canal and Bienville streets, two squares, opens from St. Patrick No. 2.
Fireman's, Metairie Ridge and Canal street.
Cypress Grove, Metairie Ridge and Canal street.
Greewood Nos. 1 and 2, Metairie Ridge and New Canal.
Chalmette National, one mile below Barracks on river, 108 acres for burial of Union Soldiers.
Olivier, Sixth District, corner of Verrett and Market.
St. Bartholemew Cemetery, Fifth District, De Armas and Lapeyrouse.
William Tell, Franklin and Hancock, Gretna, Tenth street, between Laroesier and Noveta. The Hebrew Cemetary belonging to the Hebrew Association, opened in 1828, was closed in 1860.

It is evident from the preceding table that there are thirty-five cemeteries and burial grounds in New Orleans, many of which, as St. Louis Nos. 1, 2 and 3, Lafayette, Nos. 1 and 2, St. Vincent de Paul and Girod Cemetery, are situated in the heart of populous districts.

The removal, or rather establishment of a large number of cemeteries, as the Fireman's, Cypress Grove, Greenwood, Odd Fellows, Masonic, St. Patricks Nos. 1, 2 and 3, Metairie Ridge Cemetery, beyond the bounds of the thickly populated portion of the city has without doubt diminished the diseases referrable to the emanations from the putrefying corpses of the dead.

MODE OF BURIAL.

Owing to the saturation of the soil of New Orleans and its environs with water, and the rapidity with which excavations fill with water, the custom was early introduced of interring bodies in brick or stone tombs constructed upon ground.

At the present time, with the exception of the destitute burials at the public expense, only Israelites are buried under ground.

Graves are dug from three to four feet deep, except at the cemeteries on Metairie Ridge, where, the ground being higher than in the other parts of the cemetery, it is possible to dig to a depth of seven feet.

All other interments are made in vaults of brick stone or iron, which are built on the surface of the ground, the bodies after being introduced into the vaults are walled in by brick or mortar.

There is no means of escape for the foul gasses arising from the decomposition of the corpses, except through the pores of the brick and mortar. Of course, whenever a vault, or a division of a vault, is opened, before putrefaction is completed, there is an immediate escape of noxious gases.

Girod Street Protestant Cemetery, fronts on South Liberty, between Perilliat and Cypress streets, and in the rear by the city Work House, 600 feet in length by 260 feet in width, Sexton Mr. Peter Barr, since 1865. There are no records to show when the cemetary was started. The oldest tomb dates from 1817. Number of vaults and tombs : 5736 vaults and 1099 tombs. Drainage good. Drains into the street gutters. Sanitary condition good. The vaults and tombs are in general good condition, the walls are good, having been repaired two years ago. There have not been any interments in the ground since April 1835, being prohibited by law.

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TABLE O.

INTRA-MURAL SEPULTURE IN NEW ORLEANS.—Tabulated Results of an Inspection of the Cemeteries of New Orleans, Conducted by order of, and Under the Immediate Supervision of Joseph Jones, M. D., President of the Board of Health of the State of Louisiana. 156 Washington Street, Fourth District. New Orleans, January, 1884.

Girod Street Cemetery.

YEAR.	Deaths.	Yellow Fever.	Small-Pox.	Cholera.
1833	90	0	0	0
1834	1354	0	0	0
1835	400	0	0	0
1836	174	0	0	0
1837	397	0	0	0
1838	148	2	0	2
1839	269	103	0	103
1840	182	1	0	1
1841	485	141	2	113
1842	360	27	3	26
1843	1254	185	5	190
1844	1480	24	0	24
1845	1506	0	0	0
1846	2800	127	1	128
1847	5910	1858	5	1866
1848	4080	594	29	604
1849	6475	620	55	2136
1850	5447	45	22	862
1851	5949	12	36	504
1852	7160	411	35	957
1853	12955	8037	38	469
1854	9627	2419	21	979
1855	8920	2412	56	1225
1856	5036	76	1	34
1857	5026	106	67	17
1858	10875	4646	68	12
1859	6087	96	37	9
1860	7171	11	18	0
1861	5158	1	1	2
1862	5884	2	0	1
1863	7259	1	3	4
1864	9011	6	512	42
1865	10579	1	54	4
1866	8411	216	182	1987
1867	10963	3040	47	563
1868	6975	2	129	37
1869	7291	574	498	13
1870	5999	39	5	7
1871	6526	27	25	5
1872	7527	187	459	124
1873	6900	11	202	6
1874	7122	1	1046	5
1875	10655	8945	153	1
1876	7167	15	6	21
1877	5744	1	1	5
1878	6819	1	1	11
1879	6174	3	1	0
1880	6908	1	1	0
1881	7264	9	1	0
1882	8049	31	2	0
1883	7301	14	0	0
Total	227,649	41,207	6,406	10,009

Cypress Grove Cemetery No. 1

YEAR.	Deaths.	Yellow Fever.	Small-Pox.	Cholera.
1841	121	79	0	0
1842	99	17	0	0
1843	197	61	4	0
1844	176	8	0	0
1845	193	0	0	0
1846	162	3	1	0
1847	198	58	9	0
1848	244	21	7	28
1849	360	6	5	116
1850	279	2	2	50
1851	244	0	0	13
1852	313	12	2	30
1853	499	193	2	12
1854	278	30	0	15
1855	226	53	1	32
1856	205	4	0	2
1857	195	1	3	0
1858	285	76	1	1
1859	169	1	1	0
1860	224	0	1	0
1861	178	0	0	0
1862	184	0	0	0
1863	158	0	0	0
1864	214	0	7	0
1865	218	0	12	0
1866	221	4	3	29
1867	308	73	1	7
1868	530	0	1	0
1869	616	1	0	0
1870	540	13	15	3
1871	454	1	4	0
1872	523	1	4	0
1873	611	30	2	4
1874	479	1	5	0
1875	469	2	5	0
1876	457	0	34	0
1877	703	398	0	0
1878	330	1	0	0
1879	405	0	0	0
1880	481	0	0	0
1881	399	0	6	0
1882	318	0	41	0
1883				
Total	31,375	4,253	186	1,274

Charity Hospital Cemeteries Nos. 1 and 2

YEAR.	Deaths.	Yellow Fever.	Small-Pox.	Cholera.
1850	938	1	1	213
1851	1,485	1	5	224
1852	1,787	298	7	286
1853	2,673	1,706	0	124
1854	2,295	1,149	0	278
1855	1,931	1,016	0	152
1856	662	44	0	4
1857	630	124	0	4
1858	1,767	1,217	1	4
1859	857	67	0	2
1860	902	0	0	1
1861	612	0	0	0
1862	512	0	0	0
1863	464	0	0	0
1864	532	1	0	0
1865	432	0	0	1
1866	774	71	1	198
1867	1,081	532	0	53
1868	243	4	0	1
1869	461	1	0	0
1870	846	239	0	0
1871	548	13	0	0
1872	571	5	0	1
1873	698	60	0	26
1874	564	6	0	0
1875	509	10	0	0
1876	519	1	0	0
1877	552	0	0	0
1878	583	381	0	0
1879	474	1	0	0
1880	401	0	0	0
1881	547	0	0	0
1882	532	2	0	0
1883	604	1	0	0
Total	29,386	6,939	15	1,572

St. Patrick's Cemetery.

YEAR.	Deaths.	Yellow Fever.	Small-Pox.	Cholera.
1841	128	0	0	0
1842	116	0	0	0
1843	177	0	0	0
1844	176	0	0	0
1845	113	0	0	0
1846	194	0	0	0
1847	1,058	300	2	3
1848	1,091	143	3	160
1849	1,036	8	5	400
1850	742	0	0	0
1851	526	0	0	0
1852	569	0	0	0
1853	2,309	1,536	0	102
1854	1,619	219	0	160
1855	1,446	376	0	183
1856	906	19	1	22
1857	950	11	4	0
1858	1,813	711	4	0
1859	989	15	1	3
1860	1,234	4	2	0
1861	818	0	0	0
1862	860	1	0	0
1863	812	0	0	0
1864	926	1	37	0
1865	808	0	31	0
1866	882	19	7	146
1867	1,119	346	0	64
1868	530	0	1	0
1869	616	1	0	0
1870	540	0	0	3
1871	454	1	4	0
1872	553	1	0	0
1873	611	30	2	4
1874	523	1	4	0
1875	479	0	5	0
1876	469	2	5	0
1877	457	0	34	0
1878	703	398	0	0
1879	330	1	0	0
1880	405	0	0	0
1881	481	0	0	0
1882	399	0	6	0
1883	318	0	41	0
Total	31,375	4,253	186	1,274

St. Joseph's Cemetery.

YEAR.	Deaths.	Yellow Fever.	Small-Pox.	Cholera.
1855	332	63	0	27
1856	291	0	0	0
1857	316	5	4	0
1858	768	311	2	0
1859	452	0	2	0
1860	640	0	0	0
1861	434	0	0	0
1862	414	0	0	0
1863	383	0	0	0
1864	608	0	5	0
1865	501	0	40	0
1866	586	14	0	60
1867	807	245	0	12
1868	497	0	0	4
1869	505	0	0	1
1870	505	14	19	0
1871	475	2	0	0
1872	504	4	0	0
1873	567	29	2	1
1874	484	0	5	0
1875	487	4	19	0
1876	493	12	8	0
1877	466	0	41	0
1878	870	385	3	0
1879	377	0	0	0
1880	428	0	0	0
1881	510	0	0	0
1882	495	0	3	0
1883	417	0	38	0
Total	14,912	1,088	191	105

U. S. Government, Chalmette National Cemetery.

States.	Interments.
Maine	631
New Hampshire	120
Vermont	204
Massachusetts	446
Rhode Island	69
Connecticut	224
New York	626
New Jersey	8
Pennsylvania	41
Maryland	24
Ohio	106
Indiana	265
Iowa	132
Michigan	226
Wisconsin	240
Illinois	265
Minnesota	14
Kentucky	223
Tennessee	14
Missouri	151
Kansas	3
Louisiana	330
Texas	19
U. S. Army white	410
U. S. Army colored	1,470
Miscellaneous known	110
U. S. Navy	233
Quartermaster's Dept	64
Commanding officers	68
Unknown	5,617
Total	8,760
Grand total interments from 1866 to 1884	12,461

New St. Louis Cemetery.
[No records previous to 1856.]

YEAR.	Deaths.	Yellow Fever.	Small-Pox.	Cholera.
1856	106	0	0	0
1857	286	2	3	1
1858	734	266	3	1
1859	317	7	1	1
1860	473	0	0	1
1861	422	1	0	0
1862	367	1	0	0
1863	359	0	0	0
1864	404	0	12	1
1865	348	0	22	0
1866	395	15	7	6
1867	550	136	0	23
1868	278	0	0	12
1869	300	0	0	0
1870	298	39	6	0
1871	308	1	0	0
1872	283	1	0	0
1873	330	3	13	9
1874	315	0	25	0
1875	295	4	2	0
1876	288	0	5	1
1877	287	0	40	0
1878	255	0	0	0
1879	260	0	0	0
1880	240	0	29	0
1881	221	0	24	0
1882				
1883				
Total	8,760	656	199	112

Odd Fellows' Rest Cemetery.

YEAR.	Deaths.	Yellow Fever.	Small-Pox.	Cholera.
1849	47	3	0	10
1850	57	0	0	5
1851	59	0	2	4
1852	88	2	0	9
1853	163	76	1	1
1854	65	11	2	2
1855	101	14	0	10
1856	74	2	0	0
1857	72	2	0	1
1858	140	43	1	0
1859	87	0	0	1
1860	107	0	0	0
1861	83	0	0	1
1862	61	0	0	0
1863	60	0	0	0
1864	86	0	5	0
1865	75	0	4	0
1866	92	3	2	6
1867	124	46	0	6
1868	59	0	0	1
1869	74	0	1	0
1870	75	1	0	0
1871	58	0	0	1
1872	69	0	0	0
1873	63	2	2	1
1874	55	0	1	0
1875	56	0	1	0
1876	54	1	1	1
1877	49	0	3	0
1878	81	28	0	0
1879	39	0	0	0
1880	38	0	0	0
1881	52	0	0	0
1882	44	0	0	0
1883	36	0	1	0
Total	2,563	236	27	59

Waters of Israel Cemetery.

YEAR.	Deaths.	Yellow Fever.	Small-Pox.	Cholera.
1865	3	0	0	0
1866	3	0	0	0
1867	3	0	0	0
1868	3	0	0	0
1869	1	0	0	0
1870	1	0	0	0
1871	1	0	0	0
1872	1	0	0	0
1873	1	0	0	0
1874	1	0	0	0
1875	1	0	0	0
1876	1	0	0	0
1877	1	0	0	0
1878	1	0	0	0
1879	1	0	0	0
1880	1	0	0	0
1881	1	0	0	0
1882	1	0	0	0
1883	1	0	0	0
Total	33	10	1	0

Great Samaritan's (col.) Cemetery.

YEAR.	Deaths.	Yellow Fever.	Small-Pox.	Cholera.
1871	1	0	0	0
1872	2	0	0	0
1873	2	0	3	0
1874	2	0	0	0
1875	2	0	0	0
1876	3	0	0	0
1877	6	0	1	0
1878	1	0	0	0
1879	4	0	0	0
1880	3	0	0	0
1881	4	0	0	0
1882	7	0	1	0
1883	6	0	0	0
Total	50	0	9	0

Gretna Fireman's Cemetery.

YEAR	Deaths.	YEAR.	Deaths.
1866	17	1876	23
1867	29	1877	33
1868	22	1878	55
1869	27	1879	33
1870	7	1880	27
1871	11	1881	27
1872	13	1882	36
1873	23	1883	29
1874	17		
1875	23	Total	45

In 1878, 29 interments from yellow fever. No records of diseases kept.

Union Benevolent (col.) Cemetery.

YEAR.	Deaths.	YEAR.	Deaths.
1872	2	1880	0
1873	0	1881	4
1874	2	1882	3
1875	0	1883	1
1876	2		
1877	1		
1878	0		
1879	1	Total	16

Records of diseases not kept.

Gates of Prayer Cemetery.

YEAR.	Deaths.	Yellow Fever.	Small-Pox.	Cholera.
1867	17	9	9	1
1868	8	0	0	0
1869	7	0	0	0
1870	12	1	1	0
1871	9	1	0	0
1872	11	0	0	0
1873	4	0	0	0
1874	13	0	0	0
1875	10	0	0	0
1876	10	0	0	0
1877	10	0	0	0
1878	13	7	0	0
1879	10	0	0	0
1880	2	0	0	0
1881	9	0	0	0
1882	8	0	0	0
1883	16	0	3	0
Total	199	18	4	2

Cypress Grove Cemetery, No. 2.

YEAR.	Deaths.	Yellow Fever.	Small-Pox.	Cholera.
1843	257	17	0	0
1844	484	9	0	0
1845	568	0	0	0
1846	683	4	0	0
1847	1,648	1	0	0
1848	785	25	10	43
1849	1,789	47	18	459
1850	1,318	30	7	189
1851	1,129	2	2	92
1852	1,459	8	2	206
1853	2,770	1,483	2	46
1854	1,850	347	3	158
1855	1,710	459	12	265
1856	815	13	0	0
1857	717	12	6	3
1858	1,521	694	4	4
1859	850	4	2	0
1860	1,017	1	2	0
1861	657	0	0	0
1862	809	0	0	0
1863	901	0	1	0
1864	1,161	188	0	65
1865	1,079	56	0	123
1866	1,193	65	38	252
1867	1,154	392	6	93
1868	753	16	1	30
1869	638	10	15	0
1870	753	44	85	0
1871	626	1	1	0
1872	1,052	0	11	0
1873	1,033	21	218	0
1874	956	0	119	0
1875	1,422	8	189	0
1876	1,227	6	852	0
1877	1,703	6	452	0
1878	2,066	748	40	0
1879	848	5	0	0
1880	813	0	0	0
1881	827	0	0	0
1882	722	1	15	0
1883	518	0	60	0
Total	44,366	4,796	1,617	1,825

St. Louis Cemetery, No. 1.
[No records previous to 1855.]

YEAR.	Deaths.	Yellow Fever.	Small-Pox.	Cholera.
1855	396	50	4	22
1856	289	0	0	1
1857	76	0	6	2
1858	423	104	3	1
1859	305	0	2	0
1860	337	0	1	0
1861	275	0	0	0
1862	242	0	0	0
1863	362	0	0	0
1864	390	0	12	0
1865	319	0	12	0
1866	411	4	2	42
1867	412	50	1	27
1868	274	0	0	4
1869	319	0	0	1
1870	316	20	4	2
1871	252	0	1	0
1872	266	0	1	0
1873	382	3	15	7
1874	307	0	14	2
1875	291	4	6	1
1876	228	0	6	2
1877	274	0	28	0
1878	446	142	8	3
1879	237	1	0	1
1880	273	0	0	0
1881	285	0	0	0
1882	247	0	6	0
1883	237	0	32	0
Total	9,078	388	159	121

Metairie Cemetery.

YEAR.	Deaths.	Yellow Fever.	Small-Pox.	Cholera.
1874	16	0	0	0
1875	31	0	0	0
1876	28	0	0	0
1877	38	0	0	0
1878	105	31	0	0
1879	77	1	0	0
1880	70	0	0	0
1881	62	0	0	0
1882	72	0	0	0
1883	112	0	0	0
Total	603	32	0	0

Temeine Deresch Association Cemetery.

YEAR.	Deaths.	Yellow Fever.	Small-Pox.	Cholera.
1858	13	10	0	0
1859	5	0	0	0
1860	13	0	0	0
1861	10	0	0	0
1862	9	0	0	0
1863	3	0	0	0
1864	19	0	1	0
1865	18	0	3	1
1866	25	6	4	0
1867	76	48	0	0
1868	13	1	0	0
1869	15	0	0	0
1870	26	4	1	0
1871	22	1	0	0
1872	13	0	0	0
1873	17	1	0	0
1874	15	0	0	0
1875	9	0	0	0
1876	11	0	0	0
1877	7	0	1	0
1878	21	8	0	0
1879	3	0	0	0
1880	2	0	0	0
1881	3	0	0	0
1882	4	0	0	0
1883	6	0	0	0
Total	378	69	6	10

Washington Cemeteries.

YEAR.	Deaths.	Yellow Fever.	Small-Pox.	Cholera.
1843	17	10	3	0
1844	11	8	3	0
1845	17	13	4	0
1846	14	10	4	0
1847	14	9	6	0
1848	18	12	6	0
1849	15	11	4	0
1850	14	9	5	0
1851	12	6	4	0
1852	55	50	5	42
1853	13	9	4	1
1854	24	22	2	0
1855	18	12	6	1
1856	11	5	6	0
1857	15	14	1	0
1858	11	5	6	0
1859	11	5	6	0
1860	14	9	5	0
1861	11	6	5	0
1862	6	0	6	0
1863	11	5	6	0
1864	11	5	6	0
1865	11	5	6	0
1866	11	5	6	0
1867	11	5	6	0
1868	11	5	6	0
1869	11	5	6	0
1870	11	5	6	0
1871	11	5	6	0
1872	11	5	6	0
1873	11	5	6	0
1874	11	5	6	0
1875	11	5	6	0
1876	11	5	6	0
1877	11	5	6	0
1878	11	5	6	0
1879	11	5	6	0
1880	11	5	6	0
1881	11	5	6	0
1882	11	5	6	0
1883	11	5	6	0
Total	359	214	50	0

Campo Santo Cemetery, Third District.

YEAR.	Interments.	Yellow Fever.	Small-Pox.	Cholera.
1875	76	0	6	0
1876	103	0	1	0
1877	346	0	46	0
1878	237	50	11	0
1879	189	0	0	0
1880	256	0	0	0
1881	409	0	4	0
1882	414	0	66	0
1883	571	0	0	0
Total	2,231	50	124	0

German Evangelical Lutheran.

YEAR.	Deaths.	Yellow Fever.	Small-Pox.	Cholera.
1867	5	0	0	0
1868	4	0	0	0
1869	3	0	0	0
1870	5	0	0	0
1871	5	0	0	0
1872	3	0	0	0
1873	9	0	0	0
1874	6	0	0	0
1875	9	0	0	0
1876	14	0	0	0
1877	17	0	1	0
1878	14	0	0	0
1879	12	1	0	0
1880	14	0	0	0
1881	14	0	0	0
1882	16	0	0	0
1883	21	0	0	0
Total	171	11	1	0

St. Louis Cemetery, No. 2.
[No records previous to 1843.]

YEAR.	Deaths.	Yellow Fever.	Small-Pox.	Cholera.
1843	462	0	0	0
1844	490	0	0	0
1845	475	0	0	0
1846	504	0	0	0
1847	428	0	0	0
1848	Records missing.			
1849	610	0	8	
1850	882	11	36	
1851	717	2	9	
1852	824	0	0	
1853	896	2	40	5
1854	914	1	81	
1855	787	5	19	1
1856	876	1	17	0
1857	860	0	95	1
1858	1,011	191	25	0
1859	656	0	0	0
1860	697	0	0	4
1861	789	0	0	0
1862	692	0	52	0
1863	682	0	135	0
Total	13,768	298	612	248

*Records from 1847 to 1865 were stolen

Odd Fellows' Cemetery.

YEAR.	Deaths.	Yellow Fever.	Small-Pox.	Cholera.
1849	46	0	0	0
1850	50	0	0	0
1851	44	0	0	0
1852	30	0	0	0
1853	44	0	0	0
1854	40	0	0	0
1855	41	1	0	0
1856	38	0	0	0
1857	35	0	0	0
1858	154	94	1	0
1859	259	0	0	0
1860	360	0	1	1
1861	409	0	4	0
1862	451	0	108	1
1863	545	0	309	0
Total	2,024	0	422	2

Greenwood Cemetery.

YEAR.	Deaths.	Yellow Fever.	Small-Pox.	Cholera.
1855	107	23	0	14
1856	101	0	0	0
1857	115	1	2	0
1858	254	101	0	0
1859	128	0	0	0
1860	179	0	0	0
1861	125	1	0	0
1862	132	0	0	0
1863	139	0	0	0
1864	198	0	14	0
1865	202	0	16	0
1866	296	3	4	12
1867	416	135	1	13
1868	219	0	3	3
1869	222	0	5	0
1870	196	7	4	0
1871	188	3	0	0
1872	242	2	0	0
1873	259	2	3	0
1874	251	0	9	0
1875	240	4	6	0
1876	219	1	5	0
1877	214	0	13	0
1878	398	137	3	9
1879	202	0	0	0
1880	248	0	0	0
1881	254	0	0	0
1882	217	0	9	0
1883	271	0	34	0
Total	6,232	419	133	42

Firemen's Cemetery, Algiers.

YEAR.	Deaths.	Yellow Fever.	Small-Pox.	Cholera.
1874	1	0	0	0
1875	2	0	0	0
1876	1	0	0	0
1877	1	0	0	0
1878	1	0	0	0
1879	1	0	0	0
1880	1	0	0	0
1881	1	0	0	0
1882	1	0	0	0
1883	1	0	0	0
Total	11	0	0	0

St. Bartholomew Catholic Cemetery. (Algiers.)

| YEAR. | Deaths. | YEAR. | Deaths. |
|---|---

St. Patricks Cemeteries are located, No. 1 in the First District, No. 2 in the Second District, No. 3 in the Second District. St. Patricks' No. 1, is very much crowded and it is almost impossible to dig a new grave without coming in contact with an old grave. Sexton J. H. Healy. When opened: no records previous to September 1841. Number of vaults and tombs: 269 vaults and 163 tombs. Drainage fair, sanitary condition good. Total interments 31,375; died of yellow fever 4253, of small-pox 186, of cholera 1214, making a total of 5653.

Cypress Grove No. 1 and 2, are located, No. 1, bounded by Canal street, Metairie Road and Charity Hospital cemeteries; No. 2 adjoins No. 1. Sexton J. B. Faget. When opened Cypres Grove No. 1, no records previous to July 1841, No. 2, no records previous to June 1846. Cypress Grove No. 1, number intered in vaults and tombs 5591, in the ground 3783, total 9374. Whites 9327, colored 47. Deaths from yellow fever 820, small-pox 144, cholera 348, making a total of 1312. Cypress Grove No. 2, total interments, 34,412. Deaths from yellow fever, 5308; small-pox, 700; cholera, 2466; total, 8474. Drainage good sanitary condition good.

Washington Cemeteries—The preceding table comprises five cemeteries, viz: Lafayette Nos. 1 and 2. Locust Grove, Valence and Carrollton, as near as the records show that the Carrollton interments were included from the year that Carrollton was annexed (1874) to New Orleans, up to January 1, 1883, Valence Cemetery, from 1874 to January 1, 1884, Locust Grove Cemetery from 1865 to 1879, when it was closed, Lafayette No. 2, from 1840 to 1884. Lafayette No. 1, the records of the cemetery previous to 1843 were destroyed, the oldest record is a receipt dated 1829.

Lafayette No. 1—Located on Washington street, between Coliseum and Prytania, and bounded in the rear by Sixth street. Size 300 feet square, opened about the year 1829, contains 1778 lots and about 600 vaults. Drainage good, sanitary condition good, with the exception that the walls of the vaults fronting on Washington street are cracked; these cracks must be refilled with cement each year.

Lafayette No. 2, located on Washington street and bounded by St. Patrick street, St. David and Sixth streets, size 295 by 348 feet long, opened in 1840, contains 480 lots and 220 vaults. Drainage and sanitary condition good, tombs and walls in better condition than those of Lafayette No. 1.

Valence Cemetery, located on Valence street, bounded by St. Denis, St. Patrick and Bordeaux streets, opened in 1872, size 300 feet square, contains 800 lots. Drainage and sanitary condition good.

Total interments Washington Cemeteries, 44,366.

Sextons: B. S. Quinman, from 1832 to 1844, H. G. Hicks, from 1844 to 1861, Philip Harty 1861, Olivier Rice, 1862, D. F. Simpson, from 1862 to 1865, Jas. Hogan, 1865 to 1867, J. F. Callico, 1867 to 1869, Jim Tracey, 1869 to 1871, J. F. Callico, 1871 to 1874, Cornelius Donovan, 1874 to 1876, Denis Irvin, 1876 to 1878, P. Gallagher, 1878 to 1879, J. F. Birchmier, 1879 to date.

Charity Hospital cemeteries, Nos 1 and 2. Location—Charity Hospital Cemetery No. , bounded by St. Patrick's Cemetery No. 1, and Cypress Grove Cemetery No. 1, and fronts on Canal street. Charity Hospital Cemetery No. 2, bounded by St. Patrick's Cemetery No. 3 and Metairie road. Interments in Charity Hospital cemeteries commenced May, 1850; previous to this date interments from Charity Hospital were made in Cypress Grove No. 2. Interments in Charity Hospital Cemetery No. 1 commenced May, 1850, and ended January, 1872. Interments in Charity Hospital Cemetery No. 2 commenced January, 1872, and continue to date. Sexton, Charles Rolling. Interments, Charity Hospital No. 1, from May, 1850, to January, 1872: Whites, 21,418; colored, 1104; total, 22,522. Charity Hospital, No. 2, January, 1872, to date, interments, 6864; whites, 4128; colored, 2736. Grand total, 29,386. Total interments from yellow fever, 6939; small pox, 15; cholera, 1572; total, 8526.

St. Vincent de Paul, Nos. 1 and 2, No. 1 bounded by Louisa, Villere, Piety, and Urquhart streets, No. 2 bounded by Villere, Piety, Desire, and Urquhart streets, No. 3 bounded by Louisa, Robertson, St. John Baptist, and Piety streets. These cemeteries were opened in 1840, but all records previsus to 1851 have been destroyed. Sexton, V. Suarez, 1851. Contains—No. 1, 1501 vaults, 211 tombs; No. 2, 1580 vaults. Total interments: Whites, 26,053; colored, 6879; total, 33,832. Total interments from yellow fever, 3263; smallpox, 1127; cholera, 1261; total, 5651.

St. Joseph's No. 1, located on Washington street, bounded by St. David, Liberty and Sixth streets, opened in 1855, size 300 by 250 feet, and contains 522 lots and 422 vaults. Drainage and sanitary condition good.

St. Joseph's Cemetery No. 2, located on Sixth street, and bounded by St. David, Liberty and Seventh streets; same size as No. 1, contains 2 tombs, no vaults and 522 lots. Drainage and sanitary condition good; Sexton: Wm. Maura, for both cemeteries; total interments 14,912, died of yellow fever 1088, small-pox 191, cholera 105.

Association Tememie Derich Cemetery, located on Canal street, opened in 1858; all interments in the ground; total interments, white 378, died of yellow fever 69, small-pox cholera 10, total 85.

St. Louis Cemetery No. 1, bounded by St. Louis, Basin, Treme and Conti streets. Sexton, M. Rodrigue, records previous to 1855 has been lost, number vaults, 352; number tombs, 836. Total interments, white, 6128; colored, 2950; total, 9078. Died of yellow fever, 388; small-pox, 159; cholera, 121; total, 668.

St. Louis Cemetery No. 2, (comprises three blocks) (a) bounded by St. Louis, Conti, Robertson and Claiborne streets, (b) bounded by Bienville, Conti, Claiborne and Robertson streets, (c) bounded by Bienville, Customhouse, Claiborne and Robertson streets. St. Louis Cemetery No. 2, opened about 1825; no records previous to 1843. Records from September 1, 1847, to January 1, 1865, were stolen, records from January 1, 1861, to February 28, 1869, lost or destroyed. Sexton, J. F. Calico, since 1881. Drainage and sanitary condition, good. Number of tombs, 1794; number of vaults, 2347; total number of interments, 13,768. Died of yellow fever, 298; small-pox, 612; cholera, 248; total, 1158.

New St. Louis Cemetery, or Potter's Field, bounded by Esplanade and Jockey Club Park, opened June, 1856. Sexton, Hypolite Bienvenue; number of tombs and vaults, 637; total number of interments in vaults and tombs, 634; in the ground, 8760; total, 9,394. Died of yellow fever, 656; small-pox, 199; cholera, 112; total, 967. Drainage and sanitary condition good.

Greenwood Cemetery. Records from 1855 to date: Sexton, Daniel Merritt; drainage and sanitary condition good. Interments in tombs and vaults, 2190; graves, 4042; total, 6232. Died of yellow fever, 419; small-pox, 133; cholera, 42; total, 6826.

Grand Lodge Masonic Cemetery, bounded by Bienville, Metairie, Anthony and Conti streets. Opened in 1867. Sextons, J. L. Lippe from 1867 to 1876, William Tell, from 1876 to date. Sanitary condition and drainage good. This location is very high, it is necessary to dig eight (8) feet before striking water. Number of vaults forty-eight, number of graves fifty; total interments, 509; died of yellow fever, sixty-two; died of small-pox, six; died of cholera, one.

Odd Fellows Rest Cemetery, bounded by Canal, Matairie and St. Patricks Cemetery No. 2, opened in 1849, Sextons, D. Merritt, 1849 to 1868, D. Quin, 1868 to 1870, F. A. Bradley, 1870 to 1881, E. Barrett, 1881 to date, size 237 feet long by 340 feet wide. Drainage and sanitary condition good; number of vaults 640, tombs 44, graves 26, total number interments 2563, died of yellow fever 236, small-pox 27, cholera 59.

Congregation Dispersed of Judah Cemetery, bounded by Canal, St. Helena, Customhouse and Antonia streets, opened in 1846, size 180 feet front on Canal street, Sexton, Adam Eisenhauer. Drainage and sanitary condition good; total number of interments all in the ground, 518 all whites. Diseases not stated.

First German Evangelical Lutheran Cemetery of St. John's Church, bounded by Canal, Customhouse, Anthony, and Bernadotte streets, opened September, 1867. Sexton, Otto Burandt. Drainage and sanitary condition good; number of tombs, 8. Total interments, 171. Died of yellow fever, 11; smallpox, 1; cholera, none.

Cemetery of the Congregation Gates of Prayer, Joseph street, Sixth district, opened in 1850. Records previous to 1867 were destroyed by fire. Sexton, L. Rosenbaum. Drainage and sanitary condition good; all interments in the ground. Total interments previous to 1867, ——; total interments since 1867, 169; died of yellow fever, 18; small-pox, 4; cholera, 2.

Cemetery Waters of Israel. Cemetery records from 1865: Sexton, H. Bonart. Drainage and sanitary condition good. All interments in graves. Total interments, 33; died of yellow fever, 10; small-pox, 1; cholera, none.

Hebrews' Rest Association Cemetery. The cemetery of this name, located on Jackson street, was opened in 1828 and closed in 1866. Hebrews Rest was then removed to Elysian Fields street. Records from 1866 to date are complete. Drainage and sanitary condition good. All interments in graves. Total interments, 917. Died of yellow fever, 118; small-pox, 5; cholera, 14.

Metiairie Cemetery. Sexton, Wm. H. Benson, cemetery opened in 1874. Drainage and sanitary condition good. Total interments, 603; died of yellow fever, 32; small-pox, none; cholera, none.

Holts Cemetery opened May 1879. Drainage and sanitary condition good. Interments, white, 407; colored, 1617; total interments (all grave), 2054; Died of yellow fever, none; small-pox, 422; cholera, 2. Of those intered as died from small-pox in 1883, 127 died at Luzenburg Hospital, seventy-one died at Beard's City Hospital, 111 died at their residences, total 309 cases in 1883.

Campo Santo Cemetery. Located on Washington Avenue between Prosper and Sallidell streets, Third District. Sexton, Father Trevis. This cemetery opened July 1, 1875. Drainage and sanitary condition good. Interments, whites 843, colored 1341, total 2331; died of yellow fever, fifty; died of small-pox, 124; died of cholera, none.

Firemen's Cemetery (Algiers), right bank of the Mississippi River. Located in Algiers. Sexton, J Peterson. This cemetery opened in the latter part of 1878. The drainage and sanitary conditions are good. Interments, all white, sixty-seven; died of yellow fever one, died of small-pox ten, died of cholera none, total eleven.

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TABLE O—Continued.

INTRA-MURAL SEPULTURE IN NEW ORLEANS.—Tabulated Results of an Inspection of the Cemeteries of New Orleans, Conducted by order of, and Under the Immediate Supervision of Joseph Jones, M. D., President of the Board of Health of the State of Louisiana. 156 Washington Street, Fourth District. New Orleans, January, 1884.

WASHINGTON CEMETERIES, CLASSIFIED BY MONTHS.

1843.

MONTHS.	Deaths.	Vaults.	Tombs.	Graves.	Yellow Fever.	Small pox.	Cholera.
January	0	0	0	0	0	0	0
February	0	0	0	0	0	0	0
March	0	0	0	0	0	0	0
April	0	0	0	0	0	0	0
May	0	0	0	0	0	0	0
June	0	0	0	0	0	0	0
July	0	0	0	0	0	0	0
August	35	0	0	0	5	0	0
September	73	0	0	0	32	0	0
October	61	0	0	0	45	0	0
November	44	0	0	0	15	0	0
December	45	0	0	0	0	0	0
Totals	257	0	0	0	97	0	0

1844.

MONTHS.	Deaths	Vaults	Tombs	Graves	Yellow Fever	Small-pox.	Cholera
January	22	0	0	0	0	0	0
February	20	0	0	0	0	0	0
March	35	0	0	0	0	0	0
April	45	0	0	0	0	0	0
May	59	0	0	0	0	0	0
June	42	0	0	0	0	0	0
July	54	0	0	0	0	0	0
August	48	0	0	0	0	0	0
September	42	0	0	0	7	0	0
October	48	0	0	0	10	0	0
November	32	0	0	0	1	0	0
December	37	0	0	0	0	0	0
Totals	484	0	0	0	12	0	0

1845.

MONTHS.	Deaths	Vaults	Tombs	Graves	Yellow Fever	Small-pox.	Cholera
January	35	0	0	0	0	0	0
February	58	0	0	0	0	0	0
March	37	0	0	0	0	0	0
April	37	0	0	0	0	0	0
May	50	0	0	0	0	0	0
June	47	0	0	0	0	0	0
July	73	0	0	0	0	0	0
August	48	0	0	0	0	0	0
September	44	0	0	0	0	0	0
October	41	0	0	0	0	0	0
November	44	0	0	0	0	0	0
December	44	0	0	0	0	0	0
Totals	558	0	0	0	0	0	0

1846.

MONTHS.	Deaths	Vaults	Tombs	Graves	Yellow Fever	Small-pox	Cholera
January	66	0	0	0	0	0	0
February	64	0	0	0	0	0	0
March	77	0	0	0	0	0	0
April	74	0	0	0	0	0	0
May	101	0	0	0	0	0	0
June	115	0	0	0	0	0	0
July	139	0	0	0	11	0	0
August	128	0	0	0	274	0	0
September	347	0	0	0	2.83	0	0
October	119	0	0	0	25	0	0
November	92	0	0	0	2	0	0
December	46	0	0	0	1	0	0
Totals	1648	0	0	0	548	1	0

1847.

MONTHS.	Death.	Vaults.	Tombs	Graves.	Yellow Fever.	Small-Pox.	Cholera.
January	66	0	0	0	0	0	0
February	95	0	0	0	1	0	0
March	77	0	0	0	0	0	0
April	74	0	0	0	0	0	0
May	101	0	0	0	0	0	0
June	115	0	0	0	0	0	0
July	139	0	0	0	11	0	0
August	128	0	0	0	274	0	0
September	347	0	0	0	2.83	0	0
October	119	0	0	0	25	0	0
November	92	0	0	0	2	0	0
December	46	0	0	0	1	0	0
Totals	1648	0	0	0	548	1	0

1848.

MONTHS.	Deaths.	Vaults.	Tombs.	Graves.	Yellow Fever.	Small-Pox.	Cholera.
January	50	0	0	0	0	0	0
February	62	0	0	0	0	0	0
March	71	0	0	0	0	0	0
April	88	0	0	0	0	0	0
May	81	0	0	0	0	1	0
June	49	0	0	0	0	0	0
July	49	0	0	0	0	0	0
August	54	0	0	0	0	0	0
September	69	0	0	0	10	1	0
October	57	0	0	0	0	5	0
November	60	0	0	0	0	1	0
December	112	0	0	0	0	2	43
Totals	783	0	0	0	0	2	0

1849.

MONTHS.	Deaths	Vaults	Tombs	Graves	Yellow Fever	Small-Pox	Cholera
January	83	0	0	0	0	0	32
February	64	0	0	0	0	0	13
March	188	0	0	0	0	0	103
April	146	0	0	0	0	0	58
May	237	0	0	0	0	0	115
June	115	0	0	0	0	0	66
July	111	0	0	0	0	0	7
August	81	0	0	0	0	1	1
September	94	0	0	0	0	1	1
October	132	0	0	0	0	1	3
November	124	0	0	0	0	1	0
December	93	0	0	0	0	0	6
Totals	1720	0	0	0	0	4	7

1850.

MONTHS.	Deaths	Vaults	Tombs	Graves	Yellow Fever	Small-Pox	Cholera
January	95	0	0	0	0	0	0
February	111	0	0	0	0	0	0
March	116	0	0	0	4	0	0
April	89	0	0	0	0	0	0
May	158	0	0	0	0	0	82
June	189	0	0	0	0	0	95
July	108	0	0	0	0	0	24
August	115	0	0	2	0	0	10
September	163	0	0	4	1	0	17
October	276	0	0	140	0	0	11
November	245	0	0	111	0	0	27
December	133	0	0	4	0	0	22
Totals	1793	0	0	261	5	0	188

1851.

MONTHS.	Deaths	Vaults	Tombs	Graves	Yellow Fever	Small-Pox	Cholera
January	142	0	142	0	1	24	0
February	156	0	156	0	0	28	0
March	137	0	137	0	0	0	0
April	177	0	177	0	0	12	0
May	115	0	115	0	1	11	0
June	82	0	82	0	0	0	0
July	198	0	198	0	0	27	0
August	89	0	89	0	0	0	0
September	113	0	113	0	0	0	0
October	128	0	128	0	0	0	0
November	127	0	127	0	0	27	0
December	94	0	94	0	0	9	0
Totals	1931	0	19	1	10	0	0

1852.

MONTHS.	Deaths	Vaults	Tombs	Graves	Yellow Fever	Small-Pox	Cholera
January	83	0	0	0	0	0	32
February	67	0	0	0	0	0	13
March	75	0	0	0	0	0	103
April	91	0	0	0	0	0	58
May	118	0	0	0	1	0	115
June	137	0	0	0	5	0	66
July	527	0	0	0	372	0	7
August	1105	0	0	0	934	0	1
September	210	0	0	0	103	0	3
October	78	0	0	0	99	0	3
November	136	0	0	0	0	0	21
December	124	0	0	0	0	0	24
Totals	2770	0	0	0	1423	0	479

1853.

MONTHS.	Deaths	Vaults	Tombs	Graves	Yellow Fever	Small-Pox	Cholera
January	102	0	0	0	0	0	32
February	67	0	0	0	0	0	13
March	75	0	0	0	0	0	103
April	91	0	0	0	0	0	58
May	118	0	0	0	1	0	115
June	137	0	0	0	5	0	66
July	527	0	0	0	372	0	7
August	1105	0	0	0	934	0	1
September	210	0	0	0	103	0	3
October	78	0	0	0	99	0	3
November	136	0	0	0	0	0	21
December	124	0	0	0	0	0	24
Totals	2770	0	0	0	1423	0	479

1854.

MONTHS.	Deaths	Vaults	Tombs	Graves	Yellow Fever	Small-Pox	Cholera
January	97	0	0	0	0	1	0
February	99	0	0	0	0	0	0
March	135	0	0	0	0	0	50
April	143	0	0	0	0	0	13
May	98	0	0	0	0	0	6
June	69	0	0	0	0	0	11
July	98	0	0	0	1	0	1
August	149	0	0	3	0	0	0
September	121	0	0	4	0	0	4
October	101	0	0	0	0	0	2
November	157	0	0	0	0	0	43
December	110	0	0	0	0	1	29
Totals	1477	0	0	7	1	2	159

1855.

MONTHS.	Deaths.	Vaults.	Tombs.	Graves.	Yel. Fever.	Small pox	Cholera.
January	135	0	0	0	0	1	37
February	102	0	0	0	0	2	37
March	71	0	0	0	0	2	6
April	58	0	0	0	0	3	0
May	240	0	0	0	1	3	119
June	210	0	0	0	2	1	104
July	172	0	0	0	85	0	3
August	353	0	0	0	265	0	0
September	174	0	0	0	90	0	0
October	68	0	0	0	6	0	0
November	67	0	0	0	0	0	0
December	59	0	0	0	3	0	0
Totals	1710	0	0	0	450	12	365

1856.

MONTHS.	Deaths.	Vaults.	Tombs.	Graves.	Yellow Fever.	Small-Pox.	Cholera.
January	62	0	0	0	0	0	0
February	53	0	0	0	0	0	0
March	40	0	0	0	0	0	0
April	44	0	0	0	0	0	0
May	75	0	0	0	0	0	0
June	119	0	0	0	0	0	0
July	84	0	0	0	0	0	0
August	87	0	0	0	1	0	0
September	88	0	0	0	2	0	0
October	63	0	0	0	0	0	0
November	50	0	0	0	0	0	0
December	50	0	0	0	0	0	0
Totals	815	0	0	0	3	0	0

1857.

MONTHS.	Deaths.	Vaults.	Tombs.	Graves.	Yellow Fever.	Small-Pox.	Cholera.
January	50	0	0	0	0	0	0
February	40	0	0	0	0	0	0
March	55	0	0	0	1	0	0
April	44	0	0	0	0	0	0
May	81	0	0	0	2	0	0
June	82	0	0	0	0	0	0
July	65	0	0	0	1	1	0
August	73	0	0	0	2	0	0
September	52	0	0	0	3	0	0
October	75	0	0	0	7	0	0
November	59	0	0	0	2	0	0
December	47	0	0	0	0	0	0
Totals	717	0	0	0	18	1	0

1858.

MONTHS.	Deaths.	Vaults.	Tombs.	Graves.	Yellow Fever.	Small-Pox.	Cholera.
January	64	0	0	0	0	0	0
February	50	0	0	0	0	0	0
March	44	0	0	0	0	0	0
April	41	0	0	0	0	0	0
May	69	0	0	0	0	0	0
June	69	0	0	0	0	0	0
July	56	0	0	0	0	0	0
August	73	0	0	0	0	0	0
September	52	0	0	0	0	0	0
October	75	0	0	0	0	0	0
November	70	0	0	0	0	0	0
December	40	0	0	0	0	0	0
Totals	657	0	0	0	0	0	0

1859

MONTHS.	Deaths	Vaults.	Tombs.	Graves.	Yellow Fever	Small-pox	Cholera.
January	69	0	0	0	0	0	0
February	64	0	0	0	0	0	0
March	68	0	0	0	2	0	0
April	64	0	0	0	0	0	0
May	66	0	0	0	0	0	0
June	73	0	0	0	0	0	0
July	75	0	0	0	0	0	0
August	81	0	0	0	0	0	0
September	76	0	0	0	0	0	0
October	71	0	0	0	0	0	0
November	76	0	0	0	0	0	0
December	76	0	0	0	0	0	0
Totals	850	0	0	0	4	2	0

1860.

MONTHS.	Deaths.	Vaults.	Tombs.	Graves.	Yellow Fever.	Small-Pox.	Cholera.
January	71	0	0	0	0	0	0
February	75	0	0	0	0	0	0
March	67	0	0	0	2	0	0
April	106	0	0	0	0	0	0
May	81	0	0	0	0	0	0
June	114	0	0	0	0	0	0
July	97	0	0	0	1	0	0
August	80	0	0	0	3	0	0
September	98	0	0	0	0	0	0
October	89	0	0	0	0	0	0
November	70	0	0	0	0	0	0
December	69	0	0	0	0	0	0
Totals	1017	0	0	0	4	2	0

1861.

MONTHS.	Deaths.	Vaults.	Tombs.	Graves.	Yellow Fever.	Small-Pox.	Cholera.
January	64	0	0	0	0	0	0
February	50	0	0	0	0	0	0
March	44	0	0	0	0	0	0
April	41	0	0	0	0	0	0
May	69	0	0	0	0	0	0
June	69	0	0	0	0	0	0
July	56	0	0	0	0	0	0
August	73	0	0	0	0	0	0
September	52	0	0	0	0	0	0
October	75	0	0	0	0	0	0
November	70	0	0	0	0	0	0
December	76	0	0	0	0	0	0
Totals	819	0	0	0	0	0	0

1862.

MONTHS.	Deaths.	Vaults.	Tombs.	Graves.	Yellow Fever.	Small-Pox.	Cholera.
January	69	0	0	0	0	0	0
February	56	0	0	0	0	0	0
March	56	0	0	0	0	0	0
April	62	0	0	0	0	0	0
May	86	0	0	0	0	0	1
June	68	0	0	0	0	0	0
July	54	0	0	0	0	0	0
August	54	0	0	0	0	0	0
September	68	0	0	0	0	0	0
October	89	0	0	0	0	0	0
November	74	0	0	0	0	0	0
December	52	0	0	0	0	0	0
Totals	813	0	0	0	0	0	0

1863.

MONTHS	Deaths.	Vaults.	Tombs.	Graves.	Yellow Fever	Small-pox.	Cholera.
January	49	0	0	0	0	0	0
February	47	0	0	0	0	0	0
March	64	0	0	0	0	0	0
April	72	0	0	0	0	0	0
May	58	0	0	0	0	0	0
June	62	0	0	0	0	0	0
July	61	0	0	0	1	0	0
August	50	0	0	0	0	0	0
September	54	0	0	0	0	0	0
October	58	0	0	0	0	0	0
November	58	0	0	0	0	0	0
December	55	0	0	0	0	0	0
Totals	848	0	0	0	5	0	0

1864.

MONTHS.	Deaths.	Vaults.	Tombs.	Graves.	Yellow Fever.	Small-Pox.	Cholera.
January	144	0	0	0	49	0	0
February	113	0	0	0	33	0	0
March	129	0	0	0	31	0	0
April	85	0	0	0	11	0	0
May	105	0	0	0	1	0	0
June	112	0	0	0	5	0	0
July	25	0	0	0	0	0	0
August	40	0	0	0	0	0	0
September	52	0	0	0	3	0	0
October	75	0	0	0	9	0	0
November	59	0	0	0	2	0	0
December	47	0	0	0	0	0	0
Totals	1087	0	0	0	132	0	0

1865.

MONTHS.	Deaths.	Vaults.	Tombs.	Graves.	Y. Fever.	Small-Pox.	Cholera.
January	117	0	0	0	15	0	0
February	119	0	0	0	19	0	0
March	167	0	0	0	59	0	0
April	113	0	0	0	37	0	0
May	104	0	0	0	14	0	0
June	170	0	0	0	15	0	0
July	144	0	0	0	13	0	0
August	110	0	0	1	0	0	0
September	112	0	0	3	0	0	0
October	167	0	0	1	2	0	0
November	96	0	0	1	1	0	0
December	96	0	0	1	2	0	0
Totals	1422	0	0	6	189	0	0

1866.

MONTHS.	Deaths.	Vaults.	Tombs.	Graves.	Y. Fever.	Small-Pox.	Cholera.
January	124	0	0	0	0	0	0
February	89	0	0	0	0	0	0
March	100	0	0	0	0	0	0
April	72	0	0	0	37	0	0
May	58	0	0	0	0	0	0
June	62	0	0	0	0	0	0
July	61	0	0	0	1	0	0
August	50	0	0	0	3	0	0
September	54	0	0	0	0	0	0
October	58	0	0	0	1	0	0
November	58	0	0	0	0	0	0
December	55	0	0	0	0	0	0
Totals	848	0	0	0	5	0	0

1867.

MONTHS.	Deaths.	Vaults.	Tombs.	Graves.	Yellow Fever.	Small-Pox.	Cholera.
January	54	0	0	0	0	0	0
February	44	0	0	0	0	0	0
March	43	0	0	0	0	0	0
April	47	0	0	0	0	0	0
May	46	0	0	0	1	0	0
June	61	0	0	0	0	0	0
July	70	0	0	0	0	0	0
August	97	0	0	0	14	0	0
September	77	0	0	0	16	0	0
October	101	0	0	0	27	0	0
November	93	0	0	0	12	0	0
December	84	0	0	0	4	0	0
Totals	901	0	0	0	1	0	0

1868.

MONTHS.	Deaths.	Vaults.	Tombs.	Graves.	Yellow Fever.	Small-Pox.	Cholera.
January	46	0	0	0	0	0	0
February	52	0	0	0	0	0	0
March	53	0	0	0	1	0	0
April	47	0	0	0	1	0	0
May	46	0	0	0	1	0	0
June	61	0	0	0	0	0	0
July	70	0	0	0	0	0	0
August	97	0	0	0	14	0	0
September	258	0	0	0	16	0	0
October	220	0	0	0	127	0	0
November	119	0	0	0	12	0	0
December	100	0	0	0	4	0	0
Totals	1154	0	0	0	322	0	0

1869.

MONTHS.	Deaths.	Vaults.	Tombs.	Graves.	Yellow Fever.	Small-Pox.	Cholera.
January	46	0	0	0	0	1	0
February	52	0	0	0	0	0	0
March	53	0	0	0	0	0	0
April	47	0	0	0	0	0	0
May	46	0	0	0	1	0	0
June	61	0	0	0	0	0	0
July	70	0	0	0	0	0	0
August	97	0	0	0	14	0	0
September	258	0	0	0	16	0	0
October	220	0	0	0	127	0	0
November	119	0	0	0	12	0	0
December	100	0	0	0	4	0	0
Totals	1154	0	0	0	322	0	0

1870.

MONTHS.	Deaths.	Vaults.	Tombs.	Graves.	Yellow Fever.	Small-Pox.	Cholera.
January	77	0	0	0	3	0	0
February	59	0	0	0	1	0	0
March	53	0	0	0	5	0	0
April	65	0	0	0	16	0	0
May	72	0	0	0	20	0	0
June	66	0	0	0	2	0	0
July	87	0	0	0	3	0	0
August	253	0	0	0	146	0	0
September	163	0	0	0	73	0	0
October	111	0	0	0	19	0	0
November	78	0	0	1	3	0	0
December	48	0	0	1	3	0	0
Total	753	0	0	0	44	0	0

1871.

MONTHS.	Deaths.	Vaults.	Tombs.	Graves.	Yellow Fever.	Small-Pox.	Cholera.
January	54	0	0	0	0	0	0
February	41	0	0	0	0	0	0
March	49	0	0	0	0	0	0
April	54	0	0	0	0	0	0
May	59	0	0	0	0	0	0
June	75	0	0	0	0	0	0
July	93	0	0	0	0	0	0
August	90	0	0	0	0	0	0
September	76	0	0	0	2	0	0
October	77	0	0	0	4	0	0
November	71	0	0	0	2	0	0
December	80	0	0	0	1	0	0
Total	826	0	0	0	9	1	0

1872.

MONTHS.	Deaths.	Vaults.	Tombs.	Graves.	Yellow Fever.	Small-Pox.	Cholera.
January	78	0	0	0	0	0	0
February	87	0	0	0	0	0	0
March	86	0	0	0	1	0	0
April	93	0	0	0	3	0	0
May	116	0	0	0	2	0	0
June	86	0	0	0	0	0	0
July	87	0	0	0	0	0	0
August	92	0	0	0	0	0	0
September	64	0	0	0	0	0	0
October	83	0	0	0	1	0	0
November	81	0	0	0	0	0	0
December	104	0	0	0	0	0	0
Totals	1052	0	0	0	11	0	0

1873.

MONTHS.	Deaths.	Vaults and Tombs.	Graves.	Yellow Fever.	Small-pox.	Cholera.
January	105	0	0	0	49	0
February	105	0	0	0	42	0
March	94	0	0	0	30	0
April	67	0	0	0	11	0
May	104	0	0	0	22	0
June	88	0	0	0	14	0
July	96	0	0	0	3	0
August	57	0	0	0	5	0
September	81	0	0	12	0	0
October	81	0	0	0	4	0
November	67	0	0	0	0	0
December	65	0	0	0	12	0
Total	1033	0	0	0	218	0

1874.

MONTHS.	Deaths.	Vaults and Tombs.	Graves.	Yellow Fever.	Small-Pox.	Cholera.
January	64	0	64	0	0	0
February	49	0	49	0	0	0
March	51	0	51	0	0	0
April	32	0	32	0	0	0
May	53	0	53	0	0	0
June	39	0	39	0	0	0
July	33	0	33	0	0	0
August	36	0	36	0	0	0
September	60	0	60	2	0	0
October	45	0	45	5	0	0
November	33	0	33	1	0	0
December	32	0	32	2	0	0
Totals	509	0	509	10	0	0

1875.

MONTHS.	Deaths.	Vaults.	Tombs.	Graves.	Y. Fever.	Small-Pox.	Cholera.
January	117	0	0	0	15	0	0
February	119	0	0	0	19	0	0
March	167	0

St. Bartholomew's, Catholic Cemetery, Algiers, right bank of Mississippi River. Sexton, Father Brady. Opened 1857. Drainage and Sanitary condition good. Total interments, 2129. Sex, color, and diseases not stated.

Gretna Fireman's Cemetery, Gretna, parish of Jefferson, right bank of Mississippi River, opened 1866. Drainage and sanitary condition good. Total interments (all whites), 455. In 1878 there were 29 interments from yellow fever. This was the only year in which a record of diseases was kept.

Great Samaritan Colored Society Cemetery; located in Gretna, parish of Jefferson. Sexton, James Sparks. Cemetery opened in 1871. Drainage and sanitary condition good. Total interments, 50, all colored. Died of yellow fever, none; small-pox, 9; cholera, none.

Union Benevolent Colored Cemetery. Location, Gretna. Sexton, C. F. Brown. Cemetery opened in 1867. All records previous to 1874 are lost Drainage and sanitary condition good. Total interments (all colored), 45. No record of diseases.

U. S. Government Camp Chalmette National Cemetery. Locatad on left bank of Mississippi river, Parish of St. Bernard. Drainage and sanitary condition good. Total interments, 12,461. Known, 6,844; unknown, 5617. No records of diseases, except that in 1878 there were 18 interments from yellow fever. The records of this cemetery extend from 1866 to 1884.

In the execution of the inspection of the cemeteries of New Orleans, valuable service was rendered by the intelligent and faithful sanitary officers, Emanuel Bohner and Loring D. Allen, who acted immediately under the direction and supervision of the President of the Board of Health.

INTERMENTS IN THE VARIOUS CEMETERIES OF NEW ORLEANS BY YEARS—TOTAL DEATHS AND DEATHS FROM CONTAGIOUS AND INFECTIOUS DISEASES, ACCORDING TO RECORDS.

YEAR.	Total Deaths.	Deaths from Yellow Fever.	Deaths from Small-pox.	Deaths from Cholera.	Total Deaths from Contagious and Infectious Diseases.
1833	90	.....	.....	.....	.....
1834	1354	.....	.....	.....	.....
1835	400	.....	.....	.....	.....
1836	174	.....	.....	.....	.....
1837	397	.....	.....	.....	.....
1838	148	2	.....	.....	2
1839	269	103	.....	.....	103
1840	182	1	.....	.....	1
1841	485	141	2	.....	143
1842	360	23	3	.....	26
1843	1254	185	5	.....	190
1844	1480	24	.....	.....	24
1845	1506	.....	.....	.....	.....
1846	2800	127	1	.....	128
1847	5910	1858	5	3	1866
1848	4080	594	29	604	1227
1849	6475	620	55	2136	2811
1850	5447	45	22	862	929
1851	5949	12	36	504	552
1852	7160	411	35	957	1403
1853	12955	8037	38	469	8544
1854	9627	2419	21	979	3419
1855	8920	2412	56	1225	3693
1856	5036	76	1	34	111
1857	5026	196	67	17	280
1858	10875	4646	68	12	4726
1859	6087	96	27	9	132
1860	7171	11	18	.....	29
1861	5158	1	1	2	4
1862	5884	2	.....	1	3
1863	7259	1	.....	3	4
1864	8011	6	512	42	560
1865	7179	1	543	4	548
1866	8417	216	182	1287	1685
1867	10363	3040	47	563	3650
1868	4798	6	9	100	115
1869	6075	2	129	3	134
1870	7281	574	498	13	1085
1871	5909	39	5	7	51
1872	6526	27	25	5	57
1873	7727	187	459	124	770
1874	6959	13	499	4	516
1875	6527	51	313	5	369
1876	6690	41	202	6	249
1877	7122	1	1036	5	1042
1878	10635	3945	135	4	4084
1879	5407	15	.....	6	21
1880	5904	1	1	5	7
1881	6819	.....	4	7	11
1882	6174	3	386	2	391
1883	6208	1	931	.....	932
Grand total	272649	31207	6406	10009	47622

The above recapitulation does not include the U. S. Government Cemetery, or the cemeteries on the right bank of the Mississippi, as their records are very imperfect.

The city of New Orleans embraces a vast extent of territory, extending from the slaughter-house to the upper line of Carrollton, taking in Algiers on the right bank, reaching to Rigolets and connecting Lake Pontchartrain with Lake Borgne; but the more densely populated portions lie along the course of the Mississippi river; there is, therefore, ample room for the removal of the dead out of the inhabited portions of the city.

It is important to note that there has been for many years, a progressive removal of the grave yards beyond the crowded limits of the city, to the Metairie Ridge; so that at the present time only nineteen cemeteries may be regarded as strictly intra-mural, viz: First District, one grave yard, American, on Basin street, near Girod; Second District, four grave yards, St. Louis No. 1, Basin, between Conti and St. Louis streets, St. Louis Nos. 2, 3 and 4, Claiborne, from Customhouse to St. Louis streets; Third District, four grave yards, New St. Louis, Esplanade, near Bayou St. John, Hebrew, Gentilly Road, St. Vincent de Paul, Louisa and Urquhart, Campo Santo, Urquhart, near Girod street; Fourth District, Lafayette No. 1, Washington, near Prytania street, Lafayette No. 2, Washington and St. Patrick streets, St. Joseph No. 1, Washington, near St. Patrick streets, St, Joseph No. 2, Sixth, near St. Patrick street; Fifth District, two grave yards, St. Bartholemew, Algiers, Hughes, Algiers; Sixth District, two grave yards, Valence, Valence street, "St. Vincents," St. Denis street; Seventh District, two grave yards, Catholic, Carrollton, City, Carrollton.

The remainder of the cemeteries, including Holt, Metairie, Odd Fellows, Masonic, Lutheran, Cypress Grove, Greenwood, Potter's Field, Hebrew and St. Patrick's, are situated at a considerable distance from the city proper, and are not strictly intra-mural.

Without doubt the General Assembly of Louisiana should give the most careful consideration to the subject of intra-mural sepulture, and should frame such laws as would effectually close the cemeteries in the populous portions of New Orleans and confine the burials to localities removed as far as possible from the thickly populated portions.

The question as to the influence of intra-mural sepulture upon the health of the citizens of New Orleans has never been fully or satisfactorily investigated, and unfortunately the medical history of the city is sadly deficient in past times in the monthly and yearly observations upon the relations of the soil, climate, commerce and epidemics upon the public health.

A thorough investigation of the subject of the deleterious effects of cemeteries upon human beings, should embrace the following inquiries.

1. Mode of burial.
2. Number of burials.
3. Nature of diseases causing deaths.
4. When burials take place in the ground, the nature of the soil and the character, depth and origin, and periodic changes of the sub-soil water.
5. The effects of the different seasons, and of the degrees of heat and moisture upon the nature and rate of the purtrefactive process.
6. Chemical and physical properties of the gases exhaled.
7. The nature of the organisms developed during the putrefaction of the dead bodies.
8. The effects of the products of putrefaction in general upon the nature and composition of the surrounding atmosphere.
9. Effects of the putrefaction of the bodies of those who have died of infectious and contagious diseases, as small-pox, scarlet fever, measles, asiatic, cholera and yellow fever.
10. To what distances can the deleterious gases and organized bodies developed during putrefaction penetrate to the detriment of living human beings?
11. In what manner is this deleterious product of putrefaction chiefly desseminated? by diffusion and multiplication in the soil and subsoil waters? by progessive ærial diffusion from the foci of infection in all directions, laterally as well as upwards? by volitization upwards, in the atmosphere there by condensation in combination with water, at night or during the period of rain, forg or mist, thus contaminating our drinking water.

HISTORICAL.

After a careful examination of the mortuary nnd historical records of New Orleans, the earliest reference to the injurious effects of intra-mural sepulture was found in the manuscript records of the Old Cathedral, and relate to the year 1788.

During a period of seventy years after the foundation of New Orleans, we have no reliable data by which to form an opinion of the effects of the mode and place of burial upon the health of the inhabitants.

The great fire of 1788, which broke out on Good Friday in the month of March, in a chapel of a Spaniard on Chartres street, about three o'clock in the afternoon, and which being fanned by a high wind, desrroyed nine hundred houses before it was extinguished, was followed by pestilence.

Through the courtesy of Mr. T. O. de Jaham, custodian of the records of the Cathedral, I have been furnished with the following extracts from the manuscript volumes.

"I, brother Antonio de Sedella, Capuchin priest of the very holy Church Cathedral of the City of New Orleans, certify on the faith that I have: That because of the epidemic that the inhabitants of the city and neighbourhood suffered after the great fire which took place the 21st of March of the year 1788, the governor of these colonies, who was then Don Esteban Miro, after consulting those empowered, and with the consent of the Administration (Agustamiento), gave the power to remove the cemetery or Holy Grounds in the rear of the Charity Hospital, farther than the other from that city, to which I consented because of the reasons that they gave me, and which related to the public health. I also certify that it was then said to me, and I never heard anybody say, that they intended taking from this church the ancient right of property and possession that they had, and have, on those grounds; and I also certify that in the above great fire perished, several books, and many parcels of documents concerning the same church, from its foundation or establishment; and to make this legal I, with superior orders, have given this in New Orleans, 9th of April, 1801.

"(Signed), FR. ANTONIO DE SEDELLA."

"Your Highness,—The cemetery of this city is situated in the centre of the last block, which I have thought a long time since prejudicial to the public health, which was really shown this year, everybody having been sick in the colony, with putrid and deadly fevers, and specially dysentery, so that a large number of people died. I have myself experienced that loathsome smell emitted by the cemetery."

The remainder of this paper consists of a prayer to have the cemetery removed.

The paper is in the handwriting of Father de Sedella.

The petition was accompanied by the following plan, illustrating the position of the old cemetery.

LIBRARY
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TABLE O—Continued.

INTRA-MURAL SEPULTURE IN NEW ORLEANS.—Tabulated Results of an Inspection of the Cemeteries of New Orleans, Conducted by order of, and Under the Immediate Supervision of Joseph Jones, M. D., President of the Board of Health of the State of Louisiana. 156 Washington Street, Fourth District. New Orleans, January, 1884.

ST VINCENT DE PAUL CEMETERY CLASSIFIED BY MONTHS.

1851.

MONTH.	Deaths.	Vaults and Tombs.	Graves.	Yellow Fever.	Small-Pox.	Cholera.
*January						
February	43	0	43	0	1	0
March	129	0	129	0	2	1
April	149	0	149	0	5	10
May	152	0	152	0	5	17
June	119	0	119	0	2	12
July	136	0	136	0	2	18
August	120	0	120	4	0	0
September	103	0	103	0	0	1
October	81	0	81	1	0	0
November	108	0	108	0	0	13
December	110	0	110	0	0	3
Totals	1250	0	1250	5	17	75

*Records destroyed by fire from 1840 to 1851.

1855.

MONTH.	Deaths.	Vaults and Tombs.	Graves.	Yellow Fever.	Small-Pox.	Cholera.
January	140	0	140	1	1	35
February	88	0	88	0	1	1
March	86	0	86	0	2	1
*April						
May	188	0	188	0	0	63
June	118	0	118	0	0	45
July	114	0	114	1	3	30
August	104	0	104	2	0	1
September	178	0	178	35	1	0
October	79	0	79	0	0	0
November	44	0	44	0	0	0
December	99	0	99	1	0	0
Totals	1238	0	1238	130	9	181

*Records Lost.

1859.

MONTHS.	Deaths.	Vaults and Tombs.	Graves.	Yellow Fever.	Small-pox.	Cholera.
January	60	0	60	0	4	0
February	62	0	61	0	5	0
March	59	0	59	0	2	0
April	71	0	71	0	0	0
May	85	0	85	0	0	0
June	76	0	76	0	0	0
July	79	0	79	0	0	0
August	73	0	73	0	0	0
September	83	0	83	1	0	0
October	93	0	93	0	0	0
November	97	0	97	0	0	0
December	100	0	100	1	0	0
Totals	938	0	938	2	14	0

1863.

MONTH.	Deaths.	Vaults and Tombs.	Graves.	Y. Fever.	Small-pox.	Cholera.
January	50	0	50	0	0	0
February	49	0	49	0	0	0
March	47	0	47	0	0	0
April	66	0	66	0	0	0
May	58	0	58	0	0	0
June	94	0	94	0	0	0
July	73	0	73	0	0	0
August	90	0	90	0	0	0
September	95	0	95	0	0	0
October	84	0	84	0	0	0
November	74	0	74	0	0	0
December	70	0	70	0	0	0
Totals	850	0	850	0	0	0

1867.

MONTH.	Deaths.	Tombs and Vaults	Graves	Y. Fever.	Small-pox.	Cholera.
January	85	0	85	0	5	0
February	63	0	63	0	9	0
March	45	0	45	0	3	0
April	58	0	58	0	0	0
May	73	0	73	0	3	0
June	62	0	62	0	0	1
July	89	0	89	3	0	12
August	158	0	158	36	0	6
September	292	0	292	146	0	4
October	264	0	264	119	0	6
November	176	0	176	13	0	48
December	96	0	96	0	0	26
Total	1461	0	1461	317	20	103

1871.

MONTH.	Deaths.	Vaults and Tombs.	Graves.	Yellow Fever.	Small-Pox.	Cholera.
January	58	0	58	0	0	0
February	59	0	59	0	0	0
March	60	0	60	0	0	0
April	63	0	63	0	0	3
May	52	0	52	0	0	0
June	61	0	61	0	0	1
July	70	0	70	0	0	0
August	55	0	55	1	0	0
September	58	0	58	0	0	0
October	60	0	60	4	0	0
November	60	0	60	0	0	0
December	59	0	59	0	0	0
Totals	692	0	692	1	0	4

1875.

MONTHS.	Deaths.	Vaults and Tombs.	Graves	Yellow Fever.	Small-Pox.	Cholera.
January	63	0	63	0	0	1
February	40	0	40	0	1	0
March	42	0	42	0	3	0
April	48	0	48	0	2	0
May	41	0	41	0	1	0
June	60	0	60	0	1	0
July	58	0	58	0	0	0
August	47	0	47	1	0	1
September	63	0	63	0	1	0
October	60	0	60	4	0	0
November	60	0	60	0	0	0
December	42	0	42	0	0	0
Totals	624	0	624	5	9	2

1879.

MONTHS.	Deaths.	Vaults and Vaults.	Graves.	Yellow Fever.	Small-Pox.	Cholera.
January	55	0	55	0	0	0
February	33	0	33	0	0	0
March	31	0	31	0	0	0
April	34	0	34	0	0	0
May	49	0	49	0	0	4
June	49	0	49	0	0	1
July	36	0	36	0	0	0
August	36	0	36	1	0	0
September	34	0	34	0	0	0
October	33	0	33	0	0	0
November	45	0	45	0	0	0
December	38	0	38	0	0	0
Totals	467	0	407	1	0	5

1883.

MONTH.	Deaths.	Vaults and Tombs	Graves.	Yellow Fever.	Small-pox.	Cholera
January	56	0	56	0	6	0
February	54	0	54	0	15	0
March	61	0	61	0	20	0
April	72	0	72	0	25	0
May	73	0	73	0	15	0
June	61	0	61	0	6	0
July	41	0	41	0	2	0
August	54	0	54	0	3	0
September	50	0	50	0	3	0
October	57	0	57	0	0	0
November	25	0	25	0	0	0
December	00	0	00	0	0	0
Totals	604	0	604	0	95	0

1859.

MONTHS.	Deaths.	Vaults and Tombs.	Graves.	Y. Fever.	Small-Pox.	Cholera.
January	88	0	88	0	1	0
February	90	0	90	0	0	0
March	109	0	109	0	4	0
April	110	0	110	0	6	0
May	171	0	171	0	0	40
June	241	0	241	0	1	105
July	164	0	164	0	1	27
August	129	0	129	4	1	5
September	138	0	138	14	0	8
October	152	0	152	27	0	6
November	191	0	191	15	0	31
December	129	0	129	0	0	14
Totals	1712	0	1712	60	17	236

1856.

MONTH.	Deaths.	Vaults and Tombs.	Graves.	Yellow Fever.	Small-Pox.	Cholera.
January	69	0	69	0	0	0
February	43	0	43	0	0	0
March	45	0	45	0	0	0
April	38	0	38	0	0	0
May	70	0	70	0	0	0
June	110	0	110	0	0	0
July	78	0	78	0	0	0
August	67	0	67	0	0	0
September	59	0	59	0	0	0
October	72	0	72	0	0	0
November	61	0	61	0	0	0
December	57	0	57	0	0	0
Totals	767	0	767	0	0	0

1860.

MONTH	Deaths.	Vaults and Tombs.	Graves.	Yellow Fever.	Small-pox.	Cholera.
January	80	0	80	0	0	0
February	71	0	71	0	0	0
March	85	0	85	0	0	0
April	98	0	98	0	5	0
May	100	0	100	1	1	0
June	104	0	104	0	0	0
July	146	0	146	0	0	0
August	74	0	74	1	0	0
September	89	0	89	1	0	0
October	73	0	73	0	0	0
November	70	0	70	0	0	0
December	102	0	102	0	0	0
Totals	1092	0	1092	3	9	0

1864.

MONTH.	Deaths.	Vaults and Tom bs	Graves.	Y. Fever	Small-pox.	
January	69	0	69	0	2	
February	77	0	77	0	1	0
March	83	0	83	0	4	0
April	86	0	86	0	14	0
May	154	0	154	0	17	1
June	146	0	146	0	20	0
July	166	0	166	0	10	0
August	154	0	154	0	8	0
September	125	0	125	0	8	0
October	112	0	112	0	7	0
November	71	0	71	0	0	0
December	67	0	67	0	15	0
Totals	1329	0	1329	0	114	1

1868.

MONTH.	Deaths.	Vaults and Tombs.	Graves.	Yellow Fever.	Small-pox.	Cholera.
January	79	0	79	0	0	19
February	43	0	43	0	0	0
March	35	0	35	0	0	0
April	63	0	63	0	0	0
May	74	0	74	0	3	0
June	77	0	77	0	0	0
July	61	0	61	0	1	0
August	64	0	64	0	1	0
September	94	0	94	0	0	0
October	113	0	113	0	0	0
November	71	0	71	0	0	0
December	62	0	62	0	2	0
Totals	827	0	827	0	2	22

1872.

MONTH.	Deaths.	Vaults and Tombs.	Graves.	Yellow Fever.	Small-pox.	Cholera.
January	59	0	59	0	0	0
February	42	0	42	0	1	0
March	43	0	43	0	1	0
April	43	0	43	0	1	0
May	83	0	83	0	1	1
June	74	0	74	0	0	0
July	76	0	76	0	0	0
August	69	0	69	0	1	0
September	43	0	43	0	0	0
October	69	0	69	2	0	1
November	48	0	48	0	0	0
December	56	0	56	0	0	0
Totals	699	0	699	2	3	4

1876.

MONTHS.	Deaths.	Vaults and Tombs.	Graves.	Yellow Fever.	Small-Pox.	Cholera.
January	62	0	62	0	0	0
February	51	0	51	0	0	0
March	63	0	63	0	0	0
April	40	0	40	0	5	0
May	83	0	83	0	1	1
June	66	0	66	0	0	0
July	60	0	60	0	4	0
August	40	0	40	0	1	0
September	44	0	44	0	0	0
October	54	0	54	0	0	0
November	60	0	60	0	1	0
December	46	0	46	1	3	0
Totals	672	0	672	1	21	2

1880.

MONTH.	Deaths.	Tombs and Vaults.	Graves.	Yellow Fever.	Small-Pox.	Cholera.
January	44	0	44	0	0	0
February	44	0	44	0	0	0
March	34	0	34	0	0	0
April	54	0	54	0	0	0
May	64	0	64	0	0	2
June	67	0	67	0	0	0
July	43	0	43	0	0	1
August	39	0	39	0	0	0
September	36	0	36	0	0	0
October	53	0	53	0	0	0
November	47	0	47	0	0	0
December	67	0	67	0	0	0
Totals	592	0	592	0	0	4

1883.

MONTH.	Deaths.	Vaults and Tombs	Graves.	Yellow Fever.	Small-pox.	Cholera.
January	38	0	0	38	0	0
February	36	1	0	35	0	0
March	35	0	0	35	0	0
April	28	0	0	28	0	0
May	38	2	0	36	0	2
June	43	0	0	43	0	0
July	34	1	0	33	0	1
August	22	0	0	22	0	0
September	23	0	0	23	0	0
October	38	0	0	38	0	0
November	25	0	0	25	0	0
December	39	0	0	39	0	0
Totals	399	0	0	395	0	6

RECAPITULATION BY YEARS.

S. VINCENT DE PAUL CEMETERY.

Years.	Total Deaths.	Yellow Fever.	Small-pox.	Cholera.
1851	1250	5	17	75
1852	1712	60	17	236
1853	2548	1201	5	71
1854	1778	345	13	202
1855	1238	130	20	181
1856	769	9		
1857	764	3	25	
1858	1739	60	39	2
1859	938	2	14	
1860	1092	3	9	
1861	838			
1862	789			
1863	850			1
1864	1329	114	1	1
1865	1329	115	2	
1866	1306	20	62	289
1867	1461	317	20	103
1868	827	0	2	22
1869	888	1	37	1
1870	1038	106	149	7
1871	692	1		4
1872	699	2	3	4
1873	1098	14	59	39
1874	1052	15	156	2
1875	624	5	9	2
1876	672	1	21	2
1877	583		68	3
1878	1142	426	17	1
1879	467	1		5
1880	592			4
1881	6590			1
1882	577	1	41	1
1883	604		95	
Totals	33852	3293	1127	1261

ST. PATRICK'S CEMETERY, CLASSIFIED BY MONTHS.

1841

MONTHS.	Deaths.	Vaults.	Tombs.	Graves.	Yellow Fever.	Small-pox.	Cholera.
January							
February							
March							
April							
May							
June							
July							
August							
September	60	0	0	60	0	0	0
October	42	0	0	42	0	0	0
November	8	0	0	8	0	0	0
December	18	0	0	18	0	0	0
Totals	128	0	0	128	0	0	0

1845.

MONTHS.	Deaths.	Vaults.	Tombs.	Graves.	Yellow Fever.	Small-pox.	Cholera.
January	10	0	0	10	0	0	0
February	5	0	0	5	0	0	0
March	7	0	0	7	0	0	0
April	12	0	0	12	0	0	0
May	17	0	0	17	0	0	0
June	10	0	0	10	0	0	0
July	12	0	0	12	0	0	0
August	8	0	0	8	0	0	0
September	10	0	0	10	0	0	0
October	9	0	0	9	0	0	0
November	6	0	0	6	0	0	0
December	7	0	0	7	0	0	0
Totals	113	0	0	113	0	0	0

1849.

MONTH.	Deaths.	Vaults.	Tombs.	Graves.	Yellow Fever.	Small-Pox.	Cholera.
January	193	1	0	192	3	11	0
February	98	1	0	97	0	36	0
March	215	2	0	213	0	120	0
April	168	0	0	168	0	70	0
May	104	3	0	101	0	41	0
June	21	0	0	21	0	0	0
July	390	0	0	390	350	0	0
August	1036	0	0	1036	950	0	0
September	266	0	0	266	207	0	0
October	87	0	0	87	21	0	0
November	126	0	0	126	7	0	52
December	106	0	0	106	1	0	48
Totals	2309	1	0	2308	1536	0	102

1853.

MONTHS.	Deaths.	Vaults.	Tombs.	Graves.	Yellow Fever.	Small-pox.	Cholera.
January	42	0	0	42	0	0	0
February	34	0	0	34	0	0	0
March	36	0	0	36	0	0	0
April	48	0	0	48	0	0	0
May	65	1	0	64	0	0	0
June	73	0	0	73	0	0	0
July	390	0	0	390	350	0	0
August	1036	0	0	1036	950	0	0
September	266	0	0	266	207	0	0
October	87	0	0	87	21	0	0
November	126	0	0	126	7	0	52
December	106	0	0	106	1	0	48
Totals	2309	1	0	2308	1536	0	102

1857

MONTH.	Deaths.	Vaults.	Tombs.	Graves.	Yellow Fever.	Small-pox.	Cholera.
January	95	3	2	90	0	0	0
February	80	1	1	78	0	0	0
March	70	3	0	67	0	1	0
April	65	0	1	64	0	0	0
May	101	2	1	98	0	0	0
June	71	1	0	70	0	0	0
July	69	0	3	66	2	2	0
August	82	1	1	80	1	0	0
September	69	1	0	68	2	0	1
October	97	0	0	97	18	1	0
November	86	0	0	86	8	0	0
December	65	0	0	65	0	0	0
Totals	950	12	9	929	31	4	5

1861.

MONTH.	Deaths.	Vaults.	Tombs.	Graves.	Yellow Fever.	Small-pox.	Cholera.
January	71	1	0	70	0	0	0
February	85	2	0	83	0	0	0
March	54	3	0	61	0	0	0
April	50	0	0	50	0	0	0
May	89	1	0	88	0	0	0
June	76	0	0	76	0	0	0
July	77	2	2	73	0	0	0
August	70	0	0	70	0	0	0
September	63	0	0	63	0	0	0
October	71	1	0	70	0	0	0
November	63	2	2	59	0	0	0
December	49	3	0	46	0	0	0
Totals	818	16	5	797	0	0	0

1865.

MONTHS.	Deaths.	Vaults.	Tombs.	Graves.	Yellow Fever.	Small-pox.	Cholera.
January	62	0	0	62	0	0	0
February	55	2	3	50	0	0	0
March	38	2	0	36	0	0	0
April	46	3	0	43	0	1	0
May	82	1	0	81	0	0	0
June	84	0	1	83	0	0	0
July	76	0	1	75	0	0	0
August	93	1	2	90	0	0	0
September	65	0	0	65	0	0	0
October	84	1	1	82	0	0	0
November	63	2	2	59	0	0	0
December	63	1	4	58	0	0	0
Totals	808	13	14	781	0	1	0

1869.

MONTH.	Deaths.	Vaults.	Tombs.	Graves.	Yellow Fever.	Small-pox.	Cholera.
January	44	0	0	44	0	0	0
February	35	0	0	33	0	0	0
March	66	0	0	66	0	0	0
April	61	0	0	61	0	1	0
May	82	2	0	80	0	0	0
June	56	0	0	56	0	0	0
July	49	0	0	49	0	0	0
August	59	0	0	59	1	1	0
September	45	1	0	44	0	0	0
October	34	1	0	33	0	0	0
November	46	0	0	46	0	1	0
December	46	0	0	46	1	3	0
Totals	616	4	0	612	1	5	1

1873.

MONTH.	Deaths.	Vaults.	Tombs.	Graves.	Yellow Fever.	Small-pox.	Cholera.
January	62	0	0	62	0	0	0
February	42	0	0	42	0	0	0
March	43	0	0	43	0	0	0
April	43	0	0	43	0	0	0
May	74	0	0	74	0	0	0
June	77	0	0	77	0	0	0
July	76	0	0	76	0	0	0
August	69	0	0	69	0	0	0
September	43	0	0	43	0	0	0
October	69	0	0	69	2	0	1
November	48	0	0	48	0	0	0
December	56	0	0	56	0	0	0
Totals	699	0	0	699	2	3	4

1877.

MONTHS.	Deaths.	Vaults.	Tombs.	Graves.	Yellow Fever.	Small-pox.	Cholera.
January	49	0	0	49	0	0	0
February	39	0	0	39	0	0	0
March	59	0	0	59	0	0	0
April	56	0	0	56	0	0	0
May	61	0	0	61	0	0	0
June	62	0	0	62	0	0	0
July	61	0	0	61	0	0	0
August	35	0	0	35	0	0	0
September	40	0	0	40	0	0	0
October	33	0	0	33	0	0	0
November	53	0	0	53	0	0	0
December	35	0	0	35	0	0	0
Totals	583	0	0	583	0	0	0

1881.

MONTH.	Deaths.	Vaults.	Tombs.	Graves.	Yellow Fever.	Small-pox.	Cholera.
January	48	0	0	48	0	0	0
February	35	0	0	35	0	0	0
March	37	0	0	37	0	0	0
April	50	0	0	50	0	0	1
May	73	0	0	73	0	0	3
June	53	0	0	53	0	0	1
July	66	0	0	66	0	0	0
August	53	0	0	53	0	0	0
September	57	0	0	57	13	0	0
October	47	0	0	47	3	0	0
November	45	0	0	45	2	1	0
December	47	0	0	47	0	1	0
Totals	611	0	0	611	20	2	4

1877.
Totals, Deaths, 457; Vaults, 7; Tombs 0; Graves, 450; Yellow Fever, 0; Small-pox, 24. Cholera, 0.

1878.

MONTH.	Deaths.	Vaults.	Tombs.	Graves.	Yellow Fever.	Small-Pox.	Cholera.
January	39	1	0	38	0	0	0
February	27	0	0	27	0	0	0
March	29	0	0	29	0	0	0
April	29	0	0	29	0	0	0
May	29	0	0	29	0	0	0
June	23	0	0	23	0	0	0
July	38	0	0	38	0	0	0
August	22	0	0	22	0	0	0
September	23	0	0	23	0	0	0
October	38	0	0	38	0	0	0
November	25	0	0	25	0	0	0
December	39	0	0	39	0	0	0
Totals	399	0	0	395	0	6	0

1882.

MONTH.	Deaths.	Vaults.	Tombs.	Graves.	Yellow Fever.	Small-pox.	Cholera.
January	38	0	0	38	0	0	0
February	36	1	0	35	0	0	0
March	35	0	0	35	0	0	0
April	28	0	0	28	0	0	0
May	38	2	0	36	0	2	0
June	43	0	0	43	0	0	0
July	34	1	0	33	0	1	0
August	22	0	0	22	0	0	0
September	23	0	0	23	0	0	0
October	38	0	0	38	0	0	0
November	25	0	0	25	0	0	0
December	39	0	0	39	0	0	0
Totals	793	6	0	767	388	0	0

1842.

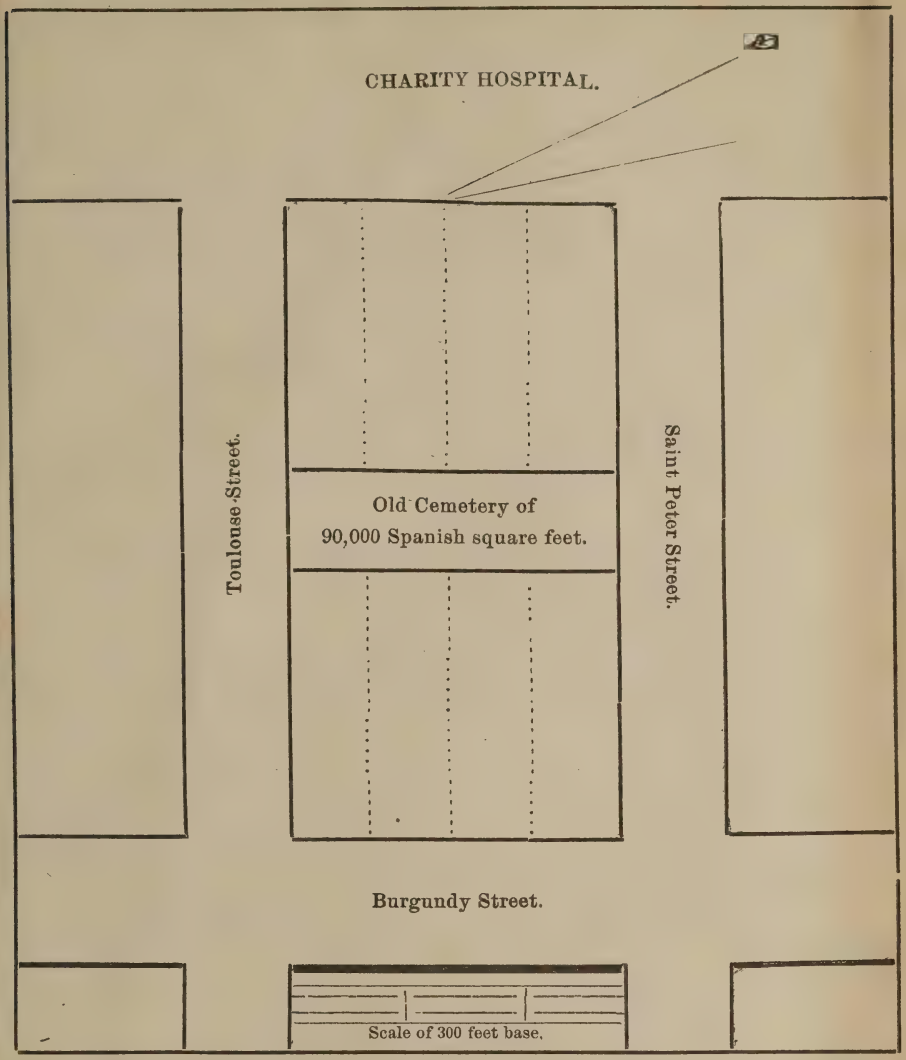
MONTHS.	Deaths.	Vaults.	Tombs.	Graves.	Yellow Fever.	Small-pox.	Cholera.
January							
February							
March							
April							
May							
June							
July							
August							
September							
October							
November							
December							
Totals							

1846

MONTH.	Deaths.	Vaults.	Tombs.	Graves.	Yellow Fever.	Small-Pox.	Cholera.
January	5	0	0	5	0	0	0
February	0	0	0	0	0	0	0
March	7	0	0	7	0	0	0
April	3	0	0	3	0	0	0
May	7	0	0	7	0	0	0
June	14	0	0	14	0	0	0
July	8	0	0	8	0	0	0
August	22	0	0	22	0	0	0
September	30	0	0	30	0	0	0
October	15	0	0	15	0	0	0
November	10	0	0	10	0	0	0
December	10	0	0	10	0	0	0
Totals	194	0	0	188	0	0	0

1850.

| MONTH. | Deaths. | Vaults. | Tombs. | Graves. | Yellow F



"YOUR HIGHNESS: The cemetery of this city is situated in the center of the last block, and has always been prejudicial to the public health. The deleterious effects of this cemetery has been visibly felt this year, which has been very unhealthy, for all the Province in general suffered from putrid and deadly fevers, and especially dysentery. Many people have died. Whilst passing the cemetery, having myself perceived a fœtid smell, I sought information from the neighbors, and they affirmed that these foul odors have been very often perceived this year. Their complaints I have referred to the Cabildo, which I enclose under Nos. 1 and 2, with certificates from doctors and surgeons (Nos. 3 and 4), and my own observations (No. 5). The consequence is that we are looking for another burial ground, out of the city, where the dead will produce no deleterious effects, and the corpses will begin to be buried three inside of eight days."

This arrangement meets with the approbation of the people, and will consequently be agreeable to His Majesty.

We pray your Excellency to authorize the City Administration (Cabildo) to provide bricks so that the new cemetery be permanent, and the old one be condemned, the bones in it to be removed to the new one, so that in about two years houses will be built where it now stands. The old cemetery comprehends twelve lots, of 70 feet front, 120

feet deep, which his Majesty might give away to citizens on condition to contribute to the City Treasury six dollars annually.

So God help your Excellency many years.

New Orleans, 12th November. 1788."

This is a copy, not signed, but the handwriting appears to be that of the Bishop's Secretary.

The circumstances which caused the parish government to remove the cemetery grounds on three different occasions were probably the same as those which occasioned the removal on the 17th and 24th of October, 1788; said removal having been proposed in the spring, the number of corpses buried there being already so large that there was no more space to bury the dead. On opening the new graves underground, bodies were found, which occasioned the emission of foul smells, destructive to the health of the city, and more especially after the epidemic which the people suffered that summer, and were then suffering.

These facts illustrate in the strongest manner the necessity of abolishing so dangerous a proceeding, and at the same time of establishing a cemetery in another locality remote from the city."

The preceding extracts from the Spanish were translated by Mr. Carrouche, No. 39 Chartres street.

The preceding records are of great interest, not only in establishing the proposition that yellow fever and pestilential fevers have desolated New Orleans in past times before the epidemic of 1796, which many writers have regarded as the first appearance of this disease in New Orleans, but also as affording incontestable proof that the custom of burying the dead within the limits of the city was prejudicial to the health of the citizens.

Doctor M. Michel Halphen, in his "Memoire Sur Le Cholera-Morbus Complique d'une Epidemic de Fievre Jaune que, a Regné Simultanement a la Nouvelle Orleans en 1832," (Paris, 1833), gives a dreadful description of the filthy condition of the city of New Orleans, and of the terrible ravages of the Asiatic cholera.

In 1832 New Orleans received the cholera from St. Louis, by the arrival of the steamboat Constitution on the 24th of October.

With the accustomed ignorance, indifference and incompetence of the civil authorities of New Orleans, the cholera found this city in a filthy condition; gutters reeking in filth, the streets quagmires of mud and filth, the houses built upon low, ill-drained sites, the privies overflowing with urine and excrement; the drainage canals choked; the cemetery located in the heart of the city, badly constructed, badly drained, and crowded with corpses.

The ignorant and credulous people seized with avidity upon petitions of every description. The Mayor and Common Council resorted to such means as burning tar and the firing of cannon to disinfect the disease. Never in any country had pestilence been more swift or fatal, and out of a population of 35,000, 6,000, or more than one-sixth perished in less than twenty days. The air was polluted by the unburied and putrifying corpses, which accumulated in piles in the cemeteries across the streets. Trenches could not be dug with sufficient rapidity to secure the putrifying and moulding corpses, and frequently putrid corpses were exposed in digging the graves. The stagnant water became contaminated, and the ditches and gutters were reeking with the foul putrid drainings from the grave yard.

PREVENTABLE CAUSES OF DISEASES AND DEATHS.

POISON, SUICIDE, VIOLENCE, MURDER, ACCIDENTS, DROWNING, STARVATION, INTEMPERANCE, DELIRIUM TREMENS, MANIA A POTU, INSANITY.

A large portion of the annual report of the President of the Board of Health for 1880 was devoted to the consideration of those causes of diseases and deaths in Louisiana, and more especially in and around New Orleans, which, to a great extent, were under the control of human agency, and which might be to a large degree prevented, or diminished and controlled.

In this connection, and with a view to arouse public interest and to lead to the institution of effective measures, such sanitary works and reforms were strenuously advocated as: protection from overflow, drainage, sewerage, the abandonment of rice culture within and around the city.

The great sanitary problems of New Orleans were held to be—

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TABLE O—Continued.

INTRA-MURAL SEPULTURE IN NEW ORLEANS.—Tabulated Results of an Inspection of the Cemeteries of New Orleans, Conducted by order of, and Under the Immediate Supervision of Joseph Jones, M. D., President of the Board of Health of the State of Louisiana. 156 Washington Street, Fourth District. New Orleans, January, 1884.

ST. LOUIS CEMETERY No. 1, CLASSIFIED BY MONTHS.

1855.

MONTH	Deaths.	Vaults and Tombs.	Graves.	Yellow Fever.	Small-Pox.	Cholera.
January	10	10	0	0	0	0
February	22	22	0	0	0	0
March	31	31	0	0	0	0
April	32	32	0	0	1	0
May	50	50	0	0	1	1
June	53	53	0	0	0	0
July	34	34	0	0	0	0
August	66	66	0	32	0	1
September	41	41	0	12	0	0
October	30	30	0	0	0	0
November	12	12	0	0	0	0
December	25	25	0	0	0	0
Totals	396	396	0	50	4	32

1856.

MONTH.	Deaths.	Vaults and Tombs.	Graves.	Yellow Fever.	Small-Pox.	Cholera.
January	20	20	0	0	0	0
February	19	19	0	0	0	0
March	16	16	0	0	0	0
April	27	27	0	0	0	0
May	28	28	0	0	0	0
June	28	28	0	0	0	0
July	31	31	0	0	0	0
August	19	19	0	0	0	0
September	24	24	0	0	0	0
October	33	33	0	0	0	0
November	26	26	0	0	0	1
December	19	19	0	0	0	0
Totals	280	280	0	0	0	1

1857

MONTH.	Deaths.	Vaults and Tombs.	Graves.	Yellow Fever.	Small-Pox.	Cholera.
January	17	17	0	0	0	0
February	21	21	0	0	0	0
March	26	26	0	0	0	0
April	23	23	0	0	0	0
May	32	32	0	0	0	0
June	33	33	0	0	1	1
July	25	25	0	0	1	0
August	25	25	9	0	2	0
September	56	56	0	0	0	0
October	22	22	0	0	0	1
November	21	21	0	0	1	0
December	19	19	0	0	0	0
Totals	299	299	0	0	6	2

1858.

MONTH.	Deaths.	Vaults and Tombs.	Graves.	Yellow Fever.	Small-Pox.	Cholera.
January	21	21	0	0	1	0
February	22	22	0	0	0	0
March	23	23	0	0	0	0
April	29	29	0	0	0	0
May	30	30	0	0	1	0
June	32	32	0	0	0	0
July	41	41	0	0	0	0
August	22	22	0	0	0	0
September	26	26	0	0	0	0
October	22	24	0	0	0	0
November	32	32	0	0	0	0
December	26	26	0	0	0	0
Totals	423	423	0	0	0	0

1859.

MONTH.	Deaths.	Vaults and Tombs.	Graves.	Yellow Fever.	Small-Pox.	Cholera.
January	21	21	0	0	1	0
February	30	30	0	0	0	0
March	23	23	0	0	1	0
April	26	26	0	0	0	0
May	28	28	0	0	0	0
June	33	33	0	0	0	0
July	26	26	0	0	0	0
August	21	21	0	0	0	0
September	27	27	0	0	0	0
October	22	22	0	0	0	0
November	30	30	0	0	0	0
December	16	16	0	0	0	0
Totals	305	305	0	0	2	0

1860.

MONTH.	Deaths.	Vaults and Tombs.	Graves.	Yellow Fever.	Small-Pox.	Cholera.
January	26	26	0	0	0	0
February	28	28	0	0	0	0
March	23	23	0	0	0	0
April	29	29	0	0	0	0
May	30	30	0	0	0	0
June	32	32	0	0	0	0
July	41	41	0	0	0	0
August	22	22	0	0	0	0
September	26	26	0	0	0	0
October	32	32	0	0	0	0
November	26	26	0	0	0	0
December	26	26	0	0	0	0
Totals	337	337	0	0	0	0

1861.

MONTH.	Deaths.	Vaults and Tombs.	Graves.	Yellow Fever.	Small-Pox.	Cholera.
January	33	33	0	0	0	0
February	20	20	0	0	0	0
March	11	11	0	0	0	0
April	10	10	0	0	0	0
May	27	27	0	0	0	0
June	28	28	0	0	0	0
July	26	26	0	0	0	0
August	58	58	0	0	0	15
September	51	51	0	1	0	12
October	62	62	0	3	0	12
November	34	34	0	0	0	2
December	29	29	0	0	0	1
Totals	262	262	0	0	0	0

1862.

MONTH.	Deaths.	Vaults and Tombs.	Graves.	Yellow Fever.	Small-Pox.	Cholera.
January	12	12	0	0	0	0
February	19	19	0	0	0	0
March	18	18	0	0	0	0
April	18	18	0	0	0	0
May	19	19	0	0	0	0
June	24	24	0	0	0	0
July	29	29	0	0	0	0
August	15	15	0	0	0	0
September	24	23	0	0	0	0
October	19	19	0	0	0	0
November	24	24	0	0	0	0
December	22	22	0	0	0	0
Totals	242	242	0	0	0	0

1863.

MONTH.	Deaths.	Vaults and Tombs.	Graves.	Yellow Fever.	Small-Pox.	Cholera.
January	16	16	0	0	0	0
February	19	19	0	0	0	0
March	11	11	0	0	0	0
April	12	12	0	0	0	0
May	25	25	0	0	0	0
June	28	28	0	0	0	0
July	26	26	0	0	0	0
August	58	58	0	0	0	15
September	40	40	0	1	0	12
October	31	31	0	3	0	12
November	10	10	0	0	0	2
December	28	28	0	0	0	1
Totals	262	262	0	0	0	0

1864.

MONTH.	Deaths.	Vaults and Tombs.	Graves.	Yellow Fever.	Small-Pox.	Cholera.
January	15	15	0	0	0	0
February	32	32	0	0	0	0
March	24	24	0	0	0	0
April	21	21	0	0	0	0
May	44	44	0	1	0	0
June	47	47	0	1	0	0
July	37	37	0	1	0	0
August	36	36	0	0	0	0
September	32	32	0	0	0	0
October	44	44	0	0	0	0
November	36	36	0	3	0	0
December	33	33	0	1	0	0
Totals	390	390	0	6	0	0

1865.

MONTH.	Deaths.	Vaults and Tombs.	Graves.	Yellow Fever.	Small-Pox.	Cholera.
January	29	29	0	5	0	0
February	30	30	0	2	0	0
March	21	21	0	3	0	0
April	22	22	0	1	0	0
May	28	28	0	1	0	0
June	16	16	0	0	0	0
July	36	36	0	0	0	0
August	30	30	0	0	0	0
September	32	32	0	0	0	0
October	28	28	0	0	0	0
November	25	25	0	0	0	0
December	22	22	0	0	0	0
Totals	319	319	0	12	0	0

1866.

MONTH.	Deaths.	Vaults and Tombs.	Graves.	Yellow Fever.	Small-Pox.	Cholera.
January	33	33	0	0	0	0
February	20	20	0	0	1	0
March	41	41	0	0	1	0
April	10	10	0	0	0	0
May	27	27	0	0	0	0
June	24	24	0	0	0	0
July	22	22	0	0	0	0
August	58	58	0	0	15	0
September	51	51	0	1	0	12
October	62	62	0	3	0	12
November	34	34	0	0	2	0
December	29	29	0	0	1	0
Totals	411	411	0	4	2	42

1867.

MONTH.	Deaths.	Vaults and Tombs.	Graves.	Yellow Fever.	Small-Pox.	Cholera.
January	19	19	0	0	0	0
February	19	19	0	0	0	0
March	32	32	0	0	0	0
April	21	21	0	0	0	0
May	35	35	0	0	0	0
June	25	25	0	0	0	0
July	28	28	0	0	0	0
August	42	42	0	0	0	0
September	69	69	0	0	0	0
October	60	60	0	0	0	0
November	36	36	0	0	0	0
December	44	44	0	1	0	0
Totals	412	412	0	50	1	27

1868.

MONTH.	Deaths.	Vaults and Tombs.	Graves.	Yellow Fever.	Small-Pox.	Cholera.
January	31	31	0	0	0	0
February	24	24	0	0	0	0
March	17	17	0	0	0	0
April	20	20	0	0	0	0
May	13	13	0	0	0	0
June	28	28	0	0	0	0
July	27	27	0	0	0	0
August	22	22	0	0	0	0
September	33	33	0	0	0	0
October	67	67	0	0	0	0
November	68	68	0	0	0	0
December	74	74	0	0	0	0
Totals	424	424	0	0	0	0

1869.

MONTH.	Deaths.	Vaults and Tombs.	Graves.	Yellow Fever.	Small-Pox.	Cholera.
January	20	20	0	0	0	0
February	21	21	0	0	0	0
March	37	37	0	0	0	0
April	20	20	0	0	0	0
May	35	35	0	0	0	0
June	37	37	0	0	0	0
July	23	23	0	0	0	0
August	32	32	0	0	0	15
September	18	18	0	0	0	12
October	18	18	0	0	0	12
November	27	27	0	0	0	2
December	31	31	0	0	0	1
Totals	319	319	0	0	0	1

1870.

MONTH.	Deaths.	Vaults and Tombs.	Graves.	Yellow Fever.	Small-Pox.	Cholera.
January	23	23	0	0	0	0
February	28	28	0	0	0	0
March	26	26	0	0	0	0
April	34	34	0	0	0	0
May	32	32	0	0	0	0
June	25	25	0	0	0	0
July	41	41	0	0	1	0
August	36	36	0	0	0	0
September	34	34	0	0	0	0
October	31	31	0	0	0	0
November	25	25	0	0	0	0
December	27	27	0	0	0	0
Totals	382	382	0	0	1	0

1871.

MONTH.	Deaths.	Vaults and Tombs.	Graves.	Yellow Fever.	Small-Pox.	Cholera.
January	20	20	0	0	1	0
February	19	19	0	0	4	0
March	22	22	0	0	1	0
April	21	21	0	0	5	0
May	27	27	0	0	1	0
June	31	31	0	0	2	0
July	31	31	0	0	0	0
August	22	22	0	0	0	0
September	19	19	0	0	0	0
October	34	34	0	0	0	0
November	23	23	0	0	1	0
December	26	26	0	0	0	0
Totals	207	207	0	0	14	2

1872.

MONTH.	Deaths.	Vaults and Tombs.	Graves.	Yellow Fever.	Small-Pox.	Cholera.
January	28	28	0	0	0	0
February	21	21	0	0	1	0
March	25	25	0	0	3	0
April	19	19	0	0	0	0
May	16	16	0	0	0	0
June	24	24	0	0	0	0
July	28	28	0	0	0	0
August	27	27	0	0	0	1
September	28	28	0	0	0	0
October	32	32	0	0	0	0
November	12	15	0	0	0	0
December	31	31	0	0	0	0
Totals	266	266	0	0	1	0

1873.

MONTH.	Deaths.	Vaults and Tombs.	Graves.	Yellow Fever.	Small-Pox.	Cholera.
January	33	33	0	0	1	0
February	21	21	0	0	1	0
March	25	25	0	0	3	0
April	18	18	0	0	1	0
May	16	16	0	0	0	0
June	24	24	0	0	0	0
July	34	34	0	0	0	0
August	27	27	0	0	0	0
September	28	28	0	0	0	0
October	34	34	0	0	0	0
November	23	23	0	0	0	0
December	26	26	0	0	0	0
Totals	315	315	0	0	25	0

1874.

MONTH.	Deaths.	Vaults and Tombs.	Graves.	Yellow Fever.	Small-Pox.	Cholera.
January	53	53	0	0	0	0
February	53	53	0	0	0	0
March	51	51	0	0	0	0
April	56	56	0	0	0	0
May	70	70	0	0	0	0
June	49	49	0	0	0	0
July	61	61	0	0	0	0
August	61	61	0	0	0	0
September	57	57	0	0	0	0
October	54	54	0	0	0	0
November	48	48	0	0	0	0
December	58	58	0	0	0	0
Total	656	656	0	0	0	0

1875.

MONTH.	Deaths.	Vaults and Tombs.	Graves.	Yellow Fever.	Small-Pox.	Cholera.
January	43	43	0	0	0	0
February	69	69	0	0	0	0
March	53	53	0	0	0	0
April	51	51	0	0	0	0
May	60	60	0	0	0	0
June	78	78	0	0	0	0
July	59	59	0	0	0	0
August	61	61	0	0	0	0
September	58	58	0	0	0	0
October	54	54	0	0	0	0
November	61	61	0	0	0	0
December	50	50	0	0	0	0
Total	679	697	0	0	0	0

1876.

MONTH.	Deaths.	Vaults and Tombs.	Graves.	Yellow Fever.	Small-Pox.	Cholera.
January	66	66	0	0	3	0
February	51	51	0	0	10	0
March	93	93	0	0	33	0
April	76	76	0	0	33	0
May	89	89	0	0	20	0
June	68	68	0	0	21	0
July	69	69	0	0	8	0
August	64	64	0	0	4	0
September	50	50	0	0	8	0
October	56	56	0	0	3	0
November						
December						
Totals	682	682	0	0	144	0

1877.

MONTH.	Deaths.	Vaults and Tombs.	Graves.	Yellow Fever.	Small-Pox.	Cholera.
January	28	28	0	0	3	0
February	28	28	0	0	2	0
March	26	26	0	0	3	0
April	20	20	0	0	4	0
May	36	36	0	0	9	0
June	19	19	0	0	3	0
July	22	22	0	0	2	0
August	16	16	0	0	1	0
September	28	27	0	0	0	0
October	19	19	0	0	1	0
November	17	17	0	0	1	0
December	16	16	0	0	1	0
Totals	328	328	0	0	28	0

1878.

MONTH.	Deaths.	Vaults and Tombs.	Graves.	Yellow Fever.	Small-Pox.	Cholera.
January	28	28	0	0	2	0
February	24	24	0	0	1	0
March	25	25	0	0	1	0
April	18	18	0	0	1	2
May	20	20	0	0	1	1
June	24	24	0	0	1	0
July	33	33	0	0	0	0
August	15	15	0	0	0	0
September	16	16	0	0	0	0
October	19	19	0	0	0	0
November	22	22	0	0	0	0
December	27	27	0	0	0	0
Totals	446	446	0	0	8	3

1879.

MONTH.	Deaths.	Vaults and Tombs.	Graves.	Yellow Fever.	Small-Pox.	Cholera.
January	36	36	0	0	0	0
February	19	19	0	0	0	0
March	25	25	0	0	1	0
April	24	24	0	0	0	0
May	34	34	0	0	0	0
June	33	33	0	0	0	0
July	15	15	0	0	0	0
August	15	15	0	0	0	0
September	16	16	0	0	0	0
October	19	19	0	0	0	0
November	22	22	0	0	0	0
December	27	27	0	0	0	0
Totals	285	285	0	0	0	0

1880.

MONTH.	Deaths.	Vaults and Tombs.	Graves.	Yellow Fever.	Small-Pox.	Cholera.
January	16	16	0	0	0	0
February	28	29	0	0	0	0
March	25	25	0	0	0	0
April	21	21	0	0	0	0
May	35	35	0	0	0	0
June	29	29	0	0	0	0
July	23	23	0	0	0	0
August	32	32	0	0	0	0
September	16	16	0	0	0	0
October	23	23	0	0	0	0
November	14	14	0	0	0	0
December						
Totals	273	273	0	0	0	1

1881.

MONTH.	Deaths.	Vaults and Tombs.	Graves.	Yellow Fever.	Small-Pox.	Cholera.
January	24	0	24	0	0	0
February	19	19	0	0	0	0
March	25	25	0	0	0	0
April	24	24	0	0	0	0
May	34	34	0	0	0	0
June	33	33	0	0	0	0
July	15	15	0	0	0	0
August	15	15	0	0	0	0
September	16	16	0	0	0	0
October	19	19	0	0	0	0
November	22	22	0	0	0	0
December	27	27	0	0	0	0
Totals	285	285	0	0	0	0

1882.

MONTH.	Deaths.	Vaults and Tombs.	Graves.	Yellow Fever.	Small-Pox.	Cholera.
January	17	17	0	0	0	0
February	32	32	0	0	0	0
March	17	17	0	0	0	0
April	34	34	0	0	0	0
May	21	21	0	0	0	0
June	28	28	0	0	0	0
July	19	19	0	0	0	0
August	32	32	0	0	0	0
September	20	20	0	0	0	0
October	16	16	0	0	0	0
November	23	23	0	0	0	0
December	14	14	0	0	0	0
Totals	273	273	0	0	0	0

1883.

MONTH.	Deaths.	Vaults and Tombs.	Graves.	Yellow Fever.	Small-Pox.	Cholera.
January	28	28	0	0	0	0
February	22	22	0	0	1	0
March	32	32	0	0	1	0
April	25	25	0	0	0	0
May	34	34	0	0	10	0
June	21	21	0	0	0	0
July	28	28	0	0	4	0
August	19	19	0	0	3	0
September	16	16	0	0	0	0
October	16	16	0	0	0	0
November	17	17	0	0	0	0
December	20	20	0	0	0	0
Totals	298	298	0	0	19	0

ST. LOUIS CEMETERY No. 2, CLASSIFIED BY MONTHS.

1843.

MONTH.	Deaths.	Vaults and Tombs.	Graves.	Yellow Fever.	Small-Pox.	Cholera.
January	37	37	0	0	0	0
February	36	36	0	0	0	0
March	29	29	0	0	0	0
April	26	26	0	0	0	0
May	20	20	0	0	0	0
June	43	43	0	0	0	0
July	45	45	0	0	0	0
August	44	44	0	0	0	0
September	61	61	0	0	0	0
October	53	53	0	0	0	0
November	31	31	0	0	0	0
December	37	37	0	0	0	0
Totals	462	462	0	0	0	0

1844.

MONTH.	Deaths.	Vaults and Tombs.	Graves.	Yellow Fever.	Small-Pox.	Cholera.
January	25	25	0	0	0	0
February	33	33	0	0	0	0
March	53	53	0	0	0	0
April	49	49	0	0	0	0
May	40	40	0	0	0	0
June	46	46	0	0	0	0
July	47	47	0	0	0	0
August	38	38	0	0	0	0
September	49	49	0	0	0	0
October	35	35	0	0	0	0
November	35	35	0	0	0	0
December	40	40	0	0	0	0
Totals	490	490	0	0	0	0

1845.

MONTH.	Deaths.	Vaults and Tombs.	Graves.	Yellow Fever.	Small-Pox.	Cholera.
January	29	29	0	0	0	0
February	36	36	0	0	0	0
March	31	31	0	0	0	0
April	30	30	0	0	0	0
May	50	50	0	0	0	0
June	42	42	0	0	0	0
July	48	48	0	0	0	0
August	45	45	0	0	0	0
September	44	44	0	0	0	0
October	34	34	0	0	0	0
November	43	43	0	0	0	0
December	38	38	0	0	0	0
Totals	475	475	0	0	0	0

1846.

MONTH.	Deaths.	Vaults and Tombs.	Graves.	Yellow Fever.	Small-Pox.	Cholera.
January	29	29	0	0	0	0
February	31	31	0	0	0	0
March	29	29	0	0	0	0
April	39	39	0	0	0	0
May	41	41	0	0	0	0
June	49	49	0	0	0	0
July	59	59	0	0	0	0
August	41	41	0	0	0	0
September	50	50	0	0	0	0
October	42	42	0	0	0	0
November	48	48	0	0	0	0
December	46	46	0	0	0	0
Totals	504	504	0	0	0	0

1847.

MONTH.	Deaths.	Vaults and Tombs.	Graves.	Yellow Fever.	Small-Pox.	Cholera.
January	46	46	0	0	0	0
February	45	45	0	0	0	0
March	41	41	0	0	0	0
April	58	52	0	0	0	0
May	55	55	0	0	0	0
June	58	58	0	0	0	0
July	51	51	0	0	0	0
August	71	71	0	0	0	0
September	Records stolen from September 1, 1847, to January 1, 1865.					
October						
November						
December						
Totals	428	428	0	0	0	0

1865.

MONTH.	Deaths.	Vaults and Tombs.	Graves.	Yellow Fever.	Small-Pox.	Cholera.
January	94	94	0	0	14	0
February	66	66	0	0	19	0
March	75	75	0	0	13	0
April	88	88	0	0	13	0
May	65	65	0	0	14	0
June	72	72	0	0	2	0
July	95	95	0	0	2	0
August	66	66	0	1	0	0
September	56	56	0	0	0	0
October	57	57	0	0	0	0
November	79	79	0	0	0	0
Debember	60	60	0	0	0	0
Totals	873	873	0	1	79	0

1866.

MONTH.	Deaths.	Vaults and Tombs.	Graves.	Yellow Fever.	Small-Pox.	Cholera.
January	38	38	0	0	0	0
February	32	32	0	0	0	0
March	31	31	0	0	0	0
April	40	40	0	0	0	0
May	48	48	0	0	0	0
June	35	35	0	0	0	0
July	40	40	0	0	0	1
August	37	37	0	0	0	0
September	28	28	0	0	0	1
October	44	44	0	0	0	0
November	26	26	0	0	0	0
December	23	23	0	0	0	0
Total	422	422	0	1	0	1

1867.

MONTHS.	Deaths.	Vaults and Tombs.	Graves.	Yellow Fever.	Small-Pox.	Cholera.
January	62

1. Protection of the city from overflow by substantial levees, elevated at least four feet above the line of the highest waters.

2. Thorough surface and sub-soil drainage. Under this head should be included the reclamation of the swamps in the rear of the city, the perfection and proper grading of gutters and surface drains, and the proper excavation, perfection, cleansing and flushing of the canals which receive the storm waters and those continually yielded by the gutters.

3. The immediate and continuous removal of all fœcal matter.

4. The daily removal of garbage by an efficient scavenger force.

5. The constant repair and cleansing of the streets.

6. Paving the streets with the most substantial materials.

7. Abundant supply of river water for the use of the inhabitants and for the cleansing of private premises and the daily putrification of the markets, gutters and streets.

8. The protection of the citizens of Louisiana from unqualified druggists, midwives and practitioners of medicine, and the perfection and extension of the system of registration of marriages, births and deaths to the entire State.

9. The regulation and restriction of the sale of drugs, medicines and poisons.

10. The regulation and restriction of the sale of alcoholic and intoxicating stimulants.

11. The prevention of adulteration of food.

12. The proper elevation and construction and ventilation of all private dwellings and public buildings. Under this head, also, should be included the proper supply of pure air and pure water.

13. The proper construction, ventilation and conduct as regards all sanitary matters affecting the material, intellectual or moral nature of all inmates of prisons, jails, police, stations, schools, hospitals and asylums.

INSPECTION OF DRUGS, MILK, ARTICLES OF FOOD, FERMENTED AND DISTILLED DIQUORS, (WINES, MALT LIQUORS, DISTILLED LIQUORS, BRANDY, WHISKY, GIN, RUM, BITTTERS, ETC.)

It is of great importance to the welfare of the citizens that the City Council and Board of Health, acting in concert, should appoint and commission one or more inspectors, of the highest moral and intellectual character, and of undoubted scientific attainments, and thoroughly skilled in chemical and microscopical science, and learned in the physiological, therapeutical and toxicological action of drugs, medicines and poisons, and of the substances usually employed for the adulteration of food, whose duty it shall be to inspect all drugs and medicines, and all articles of food (including milk and meat), and to determine, by careful microscopical and chemical analysis, all adulterations of drugs, medicines and articles of food.

It should also be the duty of said Inspector, or Inspectors, to examine the quality of the drinking waters, microscopically and chemically and not only point out impurities and draw up plans of relief, but also to determine, as far as practicable, the effects of drouth and of excessive rains, and of the changes of season upon the chemical constitution and properties of the waters of the Mississippi River, and of the cisters.

Facts might be accumulated to show that far more victims perish from the adulteration of medicines and articles of food, than from the direct administration of poison, either accidentally or intentionally.

It is difficult to estimate the number of infants who perish annually in this and in other cities from the infamous practice of adulterating and diluting milk.

A small portion of the vast sums expended on amusements, spectacular shows, boat and horse races, lotteries, political campaigns, gambling-houses, and bar-rooms and clubs, would suffice to expose and prevent these adulterations of drugs, medicines and articles of food, which, directly or indirectly, destroy large numbers of useful and precious lives.

DIFFICULTY OF CONTROLLING THE SALE OF POISONS.

The difficulty of controlling the sale of poisons arises not only from imperfections in the laws and their enforcement, and in the insufficient and inefficient character of the police regulations and forces, but also from the nature and uses of the substances designated as poisons.

The term poison in popular language is applied only to those substances which destroy life in small doses; but this view of the nature of a poison is too restricted, for it obviously excludes numerous compounds, as the salts of copper, tin, zinc, lead and antimony, the poisonous properties of which cannot be disputed, but which, generally speaking, act as poisons only when administered in large doses. In a medico-legal point of view, it is immaterial whether a man dies from one ounce of a comparatively inert poison or from two grains of such poisons as arsenic, strychnine or cyanide of potassium.

When death is caused by the substance taken, the quantity required to destroy life cannot enable us to distinguish a poisonous from a non-poisonous substance.

If we adopt the comprehensive definition, that "a poison is a substance which, when absorbed into the blood, is capable of seriously affecting the health or of destroying life," a large number of substances used in the treatment of disease, of both animal, vegetable and mineral origin, would be included, as well as a large number of compounds, as those of arsenic zinc, lead, copper, cyanogen and mercury, used in the arts and manufactures.

If a substance be capable of destroying life or injuring health, it is of little importance so far as the responsibility of the prisoner is concerned, whether its action on the body is of a mechanical or chemical nature, and whether it operates fatally by absorption into the blood or not.

Whether the administering to any person of any poison or other deleterious thing be followed by any bodily injury or not, is a felony, provided the intent has been to commit murder.

The difficulty of dealing efficiently with the subject of the sale of poisons is sill further shown by the large number of substances employed in medicine and in the useful arts which possess poisonous properties. These poisons have been divided into several classes, according to their mode of action on the system, namely, irritant, nacrotics and narcotico-irritants.

I.—IRRITANT POISONS.

Under this head may be included sulphuric acid (oil of vitriol), sulphate of indigo, nitric acid (aqua fortis), nitro-muratic acid (aqua regia), hydrochloric acid (muratic acid), oxalic acid, acid oxalate of potash, tartaric acid, acetic acid, potash, soda, carbonates of soda and potash, ammonia and carbonate of ammonia, nitre (saltpetre), sulphate of potash, iodide of potassium, chloride of barium, carbonate of baryta, phosphorus, arsenic, arsenious acid, arsenite of potash (Fowler's solution,) asenite of copper, (Scheele's green, emerald green), arsenic acid and arsenates, sulphides of

arsenic, (orpiment,) chloride of arsenic, arseniuretted hydrogen, corrosive sublimate (perchloride of mercury), calomel (subchloride of mercury), ammoniated mercury (white precipitate), red oxide mercury (red precipitate), persulphide of mercury (cinnibar, vermilion), cyanide of mercury, subsulphate of mercury (Turpeth Mineral), nitrates of mercury, iodides of mercury, (red iodide and green iodide), acetate of lead (sugar of lead), subacetate of lead (Goulard's extract), carbonate of lead (white lead), oxides of lead (yellow oxide, massicot, litharge, and minium or red lead), copper, sulphate of copper (blue vitriol), subacetate of copper, (verdegris), antimony (tartar emetic), sulphate of zinc (white vitriol), chloride of tin (Dyer's spirits), nitrate of silver (lunar caustic, lapis infernalis), perchloride of gold, sulphate of iron (copperas, green vitriol), muriate of iron (tincture of perchloride of iron), subnitrate of bismuth, bichromate of potash, chromic acid, chromate of lead, thallium, iodine, aloes, colocynth, gamboge, jalap, scamony, savin, croton oil, castor seeds, colchicum, hellebore, oil of turpentine, oil of tar, mouldy bread, carib or locust bean, cantharides, poisonous fish, mussels, cheese, sausage, poisonous, pork, bacon, trichiniasis, putrescent food.

II.—NEUROTIC (NARCOTIC OR CEREBRAL) POISONS.

Opium, poppies, Godfrey's cordial, Dalby's carminative, camphorated tincture of opium (paregoric elixir), powder of ipecac and opium (Dover's powders), black drop Battley's sedative solution, chlorodyne, nepenthe, tincture of opium (laudanum), morphia and its salts, hydrocyanic or prussic acid, cyanide of potassium, essential oil of bitter almonds, narcotic liquids and vapors, sulphide of carbon, coal naptha, wood naptha, amylene, fusil oil, (amylic alcohol), benzole, nitrobenzole, aniline, oil of wormwood, nitroglycerine or gleonoine, alcohol, ether, chloroform, camphor, tobacco, nicotina, cocculus indicus, picrotoxine, darnel seeds, calabar bean, fungi, henbane, lactucarium, solanum.

III.—SPINAL POISONS.

Strychnia, brucia.

IV.—CEREBRO SPINAL POISONS.

Conium maculatum (hemlock), conia, œnanthe crocata, æthusa cynapium, aconite (monksbane), aconitina, atropia belladonna (deadly nightshade), atropia, lobelia inflata (Indian tobacco), digitalis purpura (fox glove), datura stramonium (thorn apple), cristus laburnum (laburnum), taxus baccata (yew), ligustrum vulgare (birch).

V.—GASEOUS POISONS.

Carbonic acid, charcoal vapor, carbonic oxide, coal and coke vapor, sulphurous acid, vapor of lime, cements and brick kilns, confined air, coal gas, carburetted hydrogen and water gas, sulphuretted hydrogen, effluvia of drains and sewers, mephitic vapors, exhalations from the dead.

VI.—LIGHTNING, COLD, HEAT, STARVATION, DROWNING.

Under the last head are included certain physical causes of death which cannot be strictly classed with poisons.

It is evident from the preceding enumeration that, in a medico-legal view, many substances must be regarded as poisons which are daily employed as medicines and as valuable materials absolutely indispensable in the arts and manufactures.

Thus arsenic, a violent poison, enters into the composition of many pigments, and of many preparations used in destroying insects and pests of all kinds, and for the preservation of stuffed birds and animals, and the

embalming of dead bodies. Cases of ill-health and actual poisoning have occurred from the extensive use of arsenic in the preparation of certain kinds of decorative wall paper. Paris green, extensively used for the destruction of caterpillars in the cotton fields, has destroyed life upon various occasions, and pigments containing arsenic have actually been used in coloring candies, and have destroyed the lives of children.

COPPER VESSELS AND COPPER IN ARTICLES OF FOOD.

At the meeting of the Board of Health, on Friday evening, November 27, 1881, the following paper was submitted by the President:

The extensive employment of copper vessels in cooking, as well as the use of certain salts of this metal as pigments for coloring wall papers, several articles of food—as pickles, fruits and candies—have been the occasion of accidental poisoning in this and other cities, and the attention of medical inspectors and of sanitarians should be directed to this source of disease.

All the salts of copper are poisonous, only those more commonly known in commerce as Scheele's green (arsenite of copper), blue vitrol (sulphate of copper), and verdigris (subacetate of copper), will be considered.

The sulphate of copper (blue vitriol) has been frequently taken and administered in large doses for the purpose of suicide and in attempts at murder; in the latter case the strong metallic taste possessed by this salt would in general render it impossible that the poison should be taken unknowingly.

The arsenite of copper (Scheele's green) owes its poisonous properties chiefly to arsenic.

With the exception of these salts, poisoning by copper is usually an accidental result of the common employment of the metal for culinary purposes.

The *sulphate of copper*, it doses of half an ounce and upwards, acts as a powerful irritant on adults, and a much smaller quantity would suffice to destroy infants or children. It speedily causes vomiting of the most violent kind, and the vomited matters are remarkable for being generally of a blue or green color. If the green color of the vomited liquids is owing to altered bile, it will not acquire a blue color when adding to a portion of the green liquid a srtong solution of ammonia; but if it is caused by a salt of copper, the change of color will indicate the fact. The symptoms of poisoning by the sulphate of copper are headache, colicky pains in the abdomen, with purging and vomiting; and in aggravated cases, spasms of the extremities and convulsions have been noted.

The medicinal dose of sulphate of copper, as an emetic, is from five to fifteen grains; and as a tonic, from one or four grains:

The subacetate of copper (verdigris) produces symptoms somewhat similar to those caused by the sulphate, namely, a strong styptic, metalic taste; also, a sense of constriction in the throat, followed by some colicky pains, vomiting of a green colored liquid, and purging, with violent straining (tenesmus).

In consequence of the uncertainty of its operation, subacetate of copper is not employed internally.

The arsenite of copper (Scheele's green) is met with in commerce and the arts, and constitutes, wholly or in part, a great variety of green pigments, known as emerald green (aceto-arsenite of copper), employed for paper hangings, mineral green, Brunswick, Schweinfurt or Vienna green; in oil paint, in cakes, in boxes, of water colors, in the green coloring matter

spread over confectionery, in wafers, in adhesive envelopes, and in various kinds of green decorative papers used for covering the walls of sitting and bedrooms. Although the arsenite of copper is insoluble in water, it is sufficiently soluble in the acid mucous fluids of the stomach to be taken up by the absorbents and carried as a poison into the blood. The symptoms induced are similar to those caused by arsenic—violent irritation of the stomach, vomiting, purging, and intense burning sensation and colic.

Toxicologists have recorded many cases of fatal poisoning in children from eating confectionery colored by the green arsenite of copper. Many of the colors used for confections are of a poisonous nature; the pink color given by cochineal or madder is the only one which can be regarded as innocent.

Death has been caused by the employment of the arsenite of copper, to give a rich green color to blanc mange, and it has thus been ignorantly employed for the coloring of materials served at public dinners, under the impression that emerald or mineral green was nothing more than an extract of spinach.

The use of this poison to impart a bright green color to the shelves of bakers and green grocers shops is dangerous and should be prohibited, as, the bread and meats resting upon these shelves may be contaminated.

It is well known that wall papers covered with loosely adhering aceti-arsenite of copper are, from their cheapness as well as their brightness of color, extensively used in dwellings.

This pigment consists of fifty-nine per cent of arsenic, and from these unglazed papers the poison may be easily scraped or removed by friction. It has been computed that a square foot of this paper may yield from twenty-eight to seventy grains of the arsenical compound, and in rooms exposing five or six hundred square feet arsenic is thus liable to be dissolved in the state of a fine dust or powder in the air of the room. It has been observed by the physicians and toxicologists, in this and other countries, that workmen who hang these papers or who strip them from the walls suffer from symptoms referable only to the action of arsenic.

The symptoms as described by careful observers are of a uniform character, showing their origin from a common cause, namely: dryness and irritation of the throat, with cough, irritation of the mucous membrane of the eyes and nostrils, dry cough, languor, headache, loss of appetite, nausea, colicky pains, numbness, cramp, irritability of the bowels, attended with mucous discharges, great prostration of strength, a feverish condition and wasting of the body.

Medical writers have recorded various deaths among children from the use of the paper; and it is held by eminent toxicologists that many insidious cases of illness and chronic diseases may be referred to the noxious practice of covering the walls of sitting-rooms and bedrooms with arsenic.

The manufacture, as well as the use, of paper thus colored with arsenite of copper, or any other poisonous compound, should be prohibited by legislative enactment.

The sub-chloride and carbonates of copper are also irritant poisons, but ard not employed to any extent in the arts and medicine.

The action of certain articles of food on copper, when it is used for culinary purposes, is not an unfrequent cause of accidental poisoniug.

Metallic copper undergoes no change by contact with water, unless air is present, when a hydrated carbonate, mixed with oxide of copper is formed. If the water contain any acid, such as vinegar, or common salt, or if there is oily or fatty matter in contact with the metal, then the copper is more rapidly oxidized, and the liquor or fat acquires a green color.

If the copper vessel is kept perfectly clean, and the food prepared in it is allowed to cool in other vessels, there is no great risk of its acquiring a poisonous impregnation.

The sanitarian, however, should insist that no acid, saline, fatty or oily liquid should be prepared as an article of food in a copper vessel.

The preparation of fruits, such as preserves, and the boiling of milk, coffee and tea in copper vessels, shold be discontinued.

In this form of copper poisoning the symptoms rarerly appear until after the lapse of three or four hours, and are characterized by nausea, vomiting, colicky pains, and pinching cramps in the limbs.

It should be further observed that all the ordinary copper employed in culinary vessels contaiins arsenic. It has been stated that an impure alloy used by some dentists has been so largely composed of copper as to affect the health of those who have used the plates. The acids and salts in the saliva facilitate the production of a poisonous salt of copper, and probably set free arsenic.

In the making of preserved fruits and vegetable pickles, the salts of copper (blue vitriol) are sometimes used for the purpose of giving a rich green color.

LEAD AND ITS COMPOUNDS.

Lead and its compounds occasion, perhaps, a greater number of cases of disease and death than any other poison, and, in fact, than all other poisons combined.

In the use of lead pipes and lead cisterns it has been established that the purest forms of water, like that furnished by the clouds and stored in our cisterns, act most energetically upon lead, and most rapidly induce symptoms of lead poisoning—violent cramps *(colica pictonum)* and general paralysis.

The use of lead pipes, lead gutters, or lead tanks, for conveying and storing water in this city, is fraught with danger to health and life.

Some estimate of the effects of lead as a poison upon the citizens of New Orleans may be formed by examining the records of our great Hospital.

CASES OF DEATHS FROM COLICA PINCTONUM (LEAD COLIC) IN THE CHARITY HOSPITAL OF NEW ORLEANS DURING A PERIOD OF THIRTY-FOUR YEARS, 1842—1880.

During the 18 years preceding the civil war (1842–1860) the total admissions into the Charity Hospital from all causes numbered 207,356; total, deaths, 29,616, 14.2 per cent; and during this period 710 cases of colica pictonum were treated, with 15 deaths—per cent, 2 7. During the 16 years following the civil war (1864–1880) the total admissions numbered 96,857; deaths, 14,104; per cent; 14.5; colica pictonum, 122; deaths, 4; per cent of deaths, 3.2.

During 34 years (1842–1880) the total admissions numbered 304,214; total deaths, 43,710; 14.3 per cent deaths; total cases of colica pictonum during this period 840, with 19 deaths. We find upon careful analysis of the records that during this same period of 34 years, 684 cases of colic, with 5 deaths, were entered upon the books of the Charity Hospital, a large portion of which were, without doubt, due to the slow action of lead upon the human system.

If to these statistics it were possible to add the large number of patients entered with paralysis caused by lead, it will show that not less than 2000

of the citizens of New Orleans have been compelled during the past 34 years to seek relief and treatment for the effects of lead within the walls of the Charity hospitol; of course a far greater number thus afflicted did not seek relief at the hands of charity.

Various destructive and corrosive poisons, as sulphuric, nitric and hydrochloric acids, are extensively used in the arts, manufactures and agriculture, and can at all times be purchased in any quantity desired. The same thing is true of oxalic acid, a potent vegetable poison, and used by shoemakers, and also by washwomen to remove ink stains, etc., from clothes.

POISONOUS EFFECTS OF CYANIDE OF POTASSIUM.

Cyanide of potassium is one of the most formidable poisons known to to the chemist; and the extensive use of this salt in certain arts, and especially in photography, has given rise to many accidents, and also afforded facilities for its easy procurement for suicide and poisoning.

GASEOUS POISONS.

No subject is of greater importance to the sanitarian than the effects of impurities in the atmosphere upon the health and comfort of the people. The full discussion of the effect of aerial poisons upon the human race would embrace such questions as—

1. The variations of the constituents of the atmosphere under the conditions of climate and soil.

2. The variations in the normal amounts of carbonic acid aqaeous moisture, ammonia, nitric acid, sulphuretted hydrogen, carburetted hydrogen, organic albumenoid matters, and living animal and vegetable cells.

3. The effects of terrestrial exhalations and emanations upon the atmosphere. Under this head would be included the matters and gases ejected by volcanic eruptions, and the various products of the putrefaction of animal and vegetable compounds, in swamps, cess pools, gutters and sewers.

4. The effects of variations in the composition of the atmosphere and in the matter, gases and germs resulting from putrefaction. In this report we propose to limit our researches to the following:

POISONOUS EFFECTS OF ILLUMINATING AND HEATING GASES WATER GAS (HYDROGEN AND CARBONIC OXIDE), AND OF COAL GAS (CARBURETTED HYDROGEN AND CARBONIC OXIDE.)

The reletive merits of water gas and coal gas, as well as their comparative poisonous effects, have recently engaged the attention of the civic authorities of this and other States, and the question, as far as it relates to the city of New Orleans, was referred by the Mayor and City Council to the President of the Board of Health of the State of Louisiana.

CONCLUSIONS.

From the preceeding facts we conclude:

1. Water gas is superior to the ordinary coal gas in heating power.

2. Water gas can be furnished at less cost to the consumer than ordinary coal gas.

3. The products or effects of burning water gas are less objectionable and less injurious than those arising from the combustion of gas from coal gas.

4. All forms of illuminating gases, from whatever source derived, are poisonous when inhaled in large quantities, or in small quantities during considerable periods of time.

5. The public health should be secured from the accidents arising from imperfect apparatus for supplying illuminating gases, by the most stringent laws, and by repeated and thorough inspections.

5. The subject of the influence of illuminating gases upon the health of cities and towns should receive the careful attention of the Board of Health.

7. One argument in favor of the electric light as contrasted with that furnished by illuminating gas is, that it is neither explosive nor poisonous, and produces little or no injurious contamination of the surrounding atmosphere.

ACTUAL NUMBER OF CASES OF POISONING, ACCIDENTAL OR INTENTIONAL, IN NEW ORLEANS.

The great Charity Hospital of the city, furnishes the most important field for this investigation, and I have examined, classified and consolidated its records with care, with the following results :

TOTAL ADMISSIONS AND DEATHS FROM ALL CAUSES, AND TOTAL CASES AND DEATHS FROM POISON IN THE CHARITY HOSPITAL OF NEW ORLEANS, DURING A PERIOD OF THIRTY-TWO YEARS—1842-1881, BY JOSEPH JONES, M. D.

Years.	Admissions	Deaths.	Poison.		Remarks.
			Cases.	Deaths.	
1842	4404	704	2	1	
1843	5013	1041	2	0	
1844	5846	713	2	0	
1845					
1846	8044	855	0	0	
1848	11945	1897	1	0	Laudanum.
1849	15558	2741	5	3	Laudanum.
1850	18476	1884	2	1	Laudanum.
1851	18319	1869	1	1	Laudanum.
1852	17957	2098	1	1	
1853	13759	3164	1	1	Chloroform.
1854	13192	2702	0	0	
1855	12192	2391	0	0	
1856	9432	974	2	1	Laudanum.
1857	8897	1017	0	0	
1858	11337	2299	0	0	
1859	12775	1321	0	0	
1860	14000	1390	0	0	
Total for 17 years			19	9	

Years.	Admissions.	Deaths.	Poison.		Remarks.
			Cases.	Deaths.	
1864	4861	812	2	2	Arsenic 1, laudanum 1
1866	9329	1122	9	2	Belladonna 1, nitric acid 1, opium 1, camphor 1.
1867	8612	1438	3	1	Phosphorus 1.
1868	4981	490	9	4	
1869	6177	784	2	0	
1870	7837	1118	7	0	
1871	6651	891	6	2	
1872	5541	825	7	3	Opium 3, arsenic 1, strychnine 1.
1873	5090	993	6	2	Sulphate of zinc 1, opium 4.
1874	5231	860	2	0	Opium 2.
1875	4845	753	5	1	Opium 2, strychnine 1.
1876	5690	742	7	1	Opium 4.
1877	6002	805	4	2	Opium 2, carbolic acid 1.
1879	5246	693	8	4	Arsenic 2, opium 3.
1880	4884	658	8	1	Phosphorus 2, opium 3, chloral 1, poison oak.
Total for 15 years.			85	25	

It will be observed that during a period of seventeen years—1842-1860—nineteen cases of acute poisoning [exclusive of lead poisoning] were treated, about one-half [nine] of which proved fatal; while during a period of fifteen years [1864-1880] following the recent civil war eighty-five cases of acute poisoning [excluding lead poisoning] were treated, less than one-third [twenty-five] proved fatal.

These facts would indicate that poisoning is becoming more frequent in New Orleans.

At this time it is clearly shown that the disease and death arising from the administration of poison, either for purposes of suicide or malice, form but a very small fraction of the total diseases and deaths from all causes in New Orleans.

The comparatively small effect of poison upon the death rate of New Orleans is still further illustrated by a consideration of the large number of patients treated in the Charity Hospital for mechanical injuries, as shown by the following statistics:

DURING 18 YEARS—1842-60.			DURING 16 YEARS—1864-80.			DURING 34 YEARS—1842-80.		
Causes.	Cases.	Deaths	Causes.	Cases.	Deaths	Causes.	Cases.	Death
Burns	547	73	Burns	442	79	Burns	989	152
Scalds	274	33	Scalds	12	1	Scalds	286	34
Fractures	1962	227	Fractures	1202	103	Fractures	3164	330
Contusions	4417	29	Contusions	863	13	Contusions	5280	42
Luxations	308	4	Luxations	209	2	Luxations	517	6
Wounds	3319	189	Wounds	3415	134	Wounds	6464	323
						Total	16700	887

Whilst, therefore, during a period of thirty-four years, 16,700 cases of wounds and mechanical injuries, with 887 deaths resulting therefrom, were treated in the Charity Hospital, only 104 cases, with 34 deaths, by poisoning were reported.

The deaths occasioned by accidental or intentional poisoning in New Orleans, generally, in like manner, form but a small proportion of the deaths, and are far less than those occasioned by violence, as will be seen from the following table:

DEATHS FROM POISONING, SUICIDE, KILLING AND MURDERING, AND FROM GENERAL AND LOCAL INJURIES IN NEW ORLEANS, DURING A PERIOD OF 23 YEARS.

YEAR.	Deaths from poison.	Suicide.	Killed or Murdered.	Local Injuries.	General Injuries.	Total deaths from all Causes.
1849	5	0	....	91	165	9862
1850	9	10	....	66	156	7819
1853	4	14	....	47	200	15787
1856	1	20	26	51	127	5069
1857	5	19	18	59	109	5581
1858	7	21	6	77	183	11720
1860	3	20	31	60	237	7341
1865	4	10	9	49	123	7016
1866	11	7	6	40	133	7754
1867	6	16	55	31	126	10096
1868	8	19	17	72	102	5343
1869	0	8	3	57	152	5593
1870	6	11	5	86	137	6942
1871	19	14	14	80	190	6059
1872	7	26	18	77	218	6588
1873	11	9	27	56	149	7995
1874	18	20	12	119	182	7193
1875	11	18	12	70	161	6535
1876	10	12	9	66	154	6685
1877	2	3	9	36	182	7169
1878	1	16	10	52	147	10717
1879	2	21	8	42	119	5122
1880	4	20	4	43	128	5623
Total	154	334	309	1428	3580	168255

During a period of twenty-three years there perished in New Orleans by poison, 154; by suicide, 334; killed or murdered, 309; by local injuries 1328; by general injuries, 3580; out of a grand total ot deaths from all causes, of 168,255.

SOCIETY FOR THE RECOVERY AND RESCUE OF DROWNED PEOPLE—DROWNED IN AND AROUND NEW ORLEANS.

It is worthy of note, on the other hand, that the number drowned annually in the city of New Orleans exceeds those dying by poison and suicide. Thus in 1860 the deaths by drowning numbered 88; 1861, 79; 1867, 80; 1868, 62; 1869, 59; 1870, 69; 1871, 74; 1872, 64; 1873, 77; 1874, 93; 1875, 73; 1877, 61; 1878, 59; 1880, 54.

During the fourteen years specified 1002 (one thousand and two) of the inhabitants of New Orleans perished by drowning. Without doubt, the majority of the unfortunate beings perished in the full vigor of manhood and womanhood. The value of each inhabitant to the State has been estimated at $1000 (one thousand dollars), and if this estimate be accepted, New Orleans has lost, through this channel alone, one million of dollars during the past fourteen years. But this is a mercenary view, and leaves out of view the physical, mental and moral distress of the afflicted friends and families.

Situated upon the banks of the most important river in the world, whose bosom is plowed by the ships of all nations, New Orleans, of all cities, should establish a society or association for the recovery and salvation of drowned and drowning people.

POISONOUS EFFECTS OF ALCOHOL—DELIRIUM TREMENS AND MANIA A POTU.

It can be clearly demonstrated, by facts, that alcohol is the most destructive of all poisons to the human race, and to this general assertion the citizens of New Orleans form no exception. Thus in 1857, in the city of New Orleans, the deaths from intemperance and delirium tremens numbered 84; 1858. 139; 1859, 138; 1860, 175; and during the four years specified 526 individuals perished in New Orleans from the direct effects of alcohol.

A more direct demonstration of the effects of alcohol in producing disease and deaths can be derived by a careful examination and consolidation of the statistics of the Charity Hospital, which must be regarded as the great pathological thermometer or weather-gauge of the health of New Orleans.

The records of the Charity Hospital of New Orleans show the following important facts:

During a period of thirty-four years—1842-1862; 1864-1880—there were treated in the wards of this institution 4694 cases of delirium tremens and mania a potu, of which number 914 (19.4 per cent) died; during the same period 1873 cases of intemperance were treated, of which 97 (5.1 per cent) terminated fatally.

That is, during a period of thirty-four years, in the city of New Orleans, an army of 6567 trembling, maddened, raving, drunken men and women, poisoned by alcohol, were conveyed to the wards of the Charity Hospital, and of which number more than one-seventh, or 1011 (one thousand and eleven), perished.

To estimate fully the destructive effects of alcohol we must add the cases of death from the following diseases, treated in the Charity Hospital during the same period of thirty-four years, 1842-1880:

Diseases.	Cases.	Deaths.	Per Cent.
Chirrhosis of Liver	390	240	61.5
Abscess of Liver	131	88	67.1
Ascites	981	428	43.6
Gastritis	1673	124	7.4
Anasarca	896	269	30.0
Hepatitis	806	221	27.4

From the diseases just specified, which, as are well known, are in a large measure dependent upon the use of distilled liquors in hot climates, there resulted 4877 cases and 1370 deaths.

It would be fair to estimate that, during the last thirty-four years (allowing for the relative proportion of deaths and cases of sickness in the city and Charity Hospital), alcohol has directly caused at least 20,000 cases of sickness and occasioned over 5000 deaths in the city of New Orleans.

It is impossible to form any correct estimate of the pecuniary loss to the city and State by the destructive effects of alcohol, for of all poisons it occasions the greatest physical, mental, moral and industrial loss.

But the worst feature of the question of the influence of spirit drinking upon the population is its direct relation to crime.

New Orleans is not only the great seaport of the Mississippi Valley, and an important gateway for foreign immigrants to the Southern and Southwestern States; but its population is heterogenous, and its streets are thronged by the representatives of every country upon the globe.

A large portion of its population have no interest, either personal or inherited, in the institutions of the State and general governments. The emptyings of prisons, hospitals and almshouses, and the worst elements of the surrounding States and European society, are constantly fermenting and putretying in this vast caldron.

It is, therefore, not a matter of surprise that the government and proper policing of a city with such diverse elements should not only be difficult, but that rowdyism, crime, drunken rioting and "hoodlumism" should be common, and that officials dependent for their election upon such elements, and often sprouting like the foul fungus from its native soil, should not only fail in the execution of the laws, but should often furnish the most striking examples of their infraction. These difficulties are common to all great seaport towns and cities in this country and Europe, and the term "modern Sodom" is no more applicable to New Orleans than to New York, Philadelphia, Baltimore, Paris, Liverpool, Glasgow or London.

On the other hand, it must be admitted that in New Orleans, as well as in the other great cities just named, those great monuments of the Christian religion, churches, hospitals, public schools and benevolent societies, are mighty agencies for the preservation and advancement of the material and moral and intellectual welfare of the citizens.

If the files of our daily papers and the records of our police courts, prisons, hospitals and asylums be examined, it will be found that the great cause of misery, want, insanity and crimes of all kinds, culminating in suicide and murder, originates in the unrestrained sale and the unrestricted consumption of alcoholic stimulants, known to the public under the various names of whisky, brandy, gin, rum and absynthe.

The vast proportion of street fights, stabbings and shootings occur within and around the liquor saloons, corner groceries and barrel-houses, found upon every square within the populous districts of this city; and six-sevenths of the inmates of our prisons, work-houses and insane asylums, were directly or indirectly brought to their degraded and distressed state by whisky.

In the drinking saloon, bar-room and barrel-house, the rank and file of voters congregate, and the candidates for place and power too often find such places a grand field for bargaining and bribing, and use whisky as a potent agent.

It is the province of our wise, learned and incorruptible legislators to devise ways and means to regulate the unrestrained sale of distilled liquors, and to command the peace at all times and in all places. It is not our intention to inquire whether expostulation would be useless and entreaty despised, and legal proceedings utterly unavailing, through the intricacies of law processes and the failures of the officers of justice; but, as President of the Board of Health, of the State of Louisiana, I desire by stern facts to arouse the public to a sense of the effects of the greatest and most destructive of all poisons.

The poison, alcohol, which is accessible in all places and at all times to all the citizens of Louisiana, dethrones reason, undermines and gangrenes the moral and intellectual nature, dissipates credit, blasts the reputation, disrupts the tenderest and purest family and social ties, and destroys both body and soul.

ADULTERATION OF FOOD AND MEDICINE.

As President of the Board of Health I desire to arouse the attention of its members and of those charged with the sanitary and quarantine legislation of this great State to the importance of establishing efficient means to protect its citizens from the adulteration of food and medicine.

At the meeting of the Board of Health held August 11, 1881, I urged the establishment of the inspection of articles of food, milk, fermented and distilled liquors, and drugs, upon an equitable and thoroughly scientific basis.

Not only was this subject amply illustrated by the sanitary and medico-legal history of New Orleans, but the great truth was recognized that such labor should be confided only to men of the highest intellectual and moral character and scientific attainments. If any scheme looking to the protection of the most vital interests of the citizens be adopted, either by the Board of Health and City Council, acting in conjunction, or by the Legislature of the State, acting in its sovereign capacity, it is important that intellectual, moral and scientific attainments alone should be recognized and employed.

If such offices, demanding thorough microscopical and chemical training and knowledge of the most profound and varied character, be peddled out by political demagogues for the reward of some past political service, it would be best to stop at the threshold, and leave to wiser times the establishment of a system of inspection and investigation by skilled chemists, pathologists and toxicologists—labors of the highest value to the commonwealth.

Nepotism is not confined to Popes, Kings, Presidents and Generals; but it may sadly impair the influence and usefulness of sanitary boards and State and municipal governments.

Since the great epidemic of 1878 the medical mind has been to a large extent deranged on the subject of *yellow fever*, and the professional and public mind has been concentrated upon this disease, which prevails only at long intervals of time, to the almost total neglect of the consideration of those causes of disease and death which are ever active and which are far more potent and destructive.

The results of the agitation of 1880 and 1881 have, however, established the important fact that the President of the Board of Health of the State of Louisiana has enjoyed the confidence of the health authorities of Texas, Alabama, Kentucky and Missouri, to such an extent that any organized system of quarantine against *healthy* New Orleans has been impossible, despite the doubting, if not hostile, attitude of certain interested parties.

FOOD RESOURCES OF LOUISIANA.

The soil of this State, in virtue of its variations in composition and elevation, is adapted to the successful cultivation of sugar cane, rice, cotton, corn, wheat, rye, barley, oats and all the fruits common to the temperate and sub-tropical zones. Louisiana possesses, perhaps, the most fertile soil of any of the States of this Union, in virtue of the large proportions of the alluvium of the Mississippi Valley enclosed within her borders.

As is well known, a wide belt of recent alluvium borders the Mississippi river from the mouth of the Ohio to the Gulf, seventy-five miles wide in the greatest expansion at Napoleon, and twenty-five miles in its greatest contraction at Natchez and Helena. The area of the alluvial tract above the delta is 19,450 square miles. The depth of the alluvial deposits, from Cairo to New Orleans, ranges between twenty-five and forty feet.

The area of the delta of the Mississippi river, which lies almost wholly within the borders of Louisiana, assuming that it begins where the river sends off its first branch to the sea, namely, at the mouth of Bayou Atchafalaya, is estimated at 12,300 square miles. This would be at the mouth of Red River, in latitude 31°, whilst the mouths of the Mississippi are in latitude 29°; so that the delta extends through two degrees of space. The entire delta is elevated but a few feet above the level of the Gulf of Mexico, and from its fertile soil, and proximity to the Mississippi river and bayous, is perhaps as fertile as any body of land in this or any other continent, and is admirably adapted to the cultivation of rice and the sugar cane.

RICE.

The production of rice has been steadily increasing in Louisiana, and the quality of this invaluable grain will compare favorably with the famed rice of South Carolina and Georgia.

It has been asserted that a larger number of the inhabitants of the globe live upon rice than upon any other grain, and here in Louisiana we have one of the most important articles of human food produced in the greatest abundance and in *absolute purity.* The very form and nature of the beautiful snow-white grain of the *clean rice* absolutely precludes the possibility of aduleration.

PURITY OF THE SUGAR AND MOLASSES OF LOUISIANA.

CHEMICAL EXAMINATION OF SEVERAL KINDS OF MOLASSES, OFFERED IN THE MARKETS OF NEW ORLEANS, LA.

[By Joseph Jones, M. D., Professor of Chemistry in the Medical Department of the University of Louisiana.]

The method of manufacture of sugar pursued by the planters of Louisiana, as I have determined by actual investigation and analysis, insures not only good sugar, but also pure and wholesome molasses.

In response to the request of sugar refiners and merchants, I made a careful chemical analysis of the most important varieties of molasses and syrup offered for sale in New Orleans, with the following results:

Gentlemen—In accordance with your request, I have submitted the samples of molasses furnished, to careful chemical analysis, with the following results:

This examination has been executed with care, and has been extended so as to embrace the points of interest, in a sanitary as well as in a commercial point of view.

The public, as well as the sugar manufacturer and refiner, is interested in the investigation of the quality and purity of a product which is daily consumed in large quantities as an article of food.

This report also contains matter of special importance to the sugar planters of Louisiana. The value of one of the staple products of Louisiana is seriously threatened by the importation of inferior kinds of molasses from Northern manufactories.

NO. I.—LOUISIANA MOLASSES.

Physical Properties.—Clear, rich, brownish red color. No deposit. Free from all dark particles, specks or impurities.

Sweet, pure saccharine taste.

The Louisiana molasses leaves no unpleasant taste in the mouth, and it is well established that it never blackens the teeth.

Chemical Properties.—Ferrocyanide of potassium, ferricyanide of potassium, tincture of galls, and other tests of iron, produced not the slightest discoloration.

The absence of the salts of iron from the Louisiana molasses was rendered still further evident by the character of the ash obtained by careful incineration. Each gallon yields less than 350 grains of white ash, consisting almost entirely of the carbonate and sulphate of lime, and the chlorides and carbonates of soda and potassa, with only slight traces of iron.

The characteristic tests for lead and other metals, in like manner gave no indications of metallic impurities.

Solutions of nitrate of silver, chloride of barium and oxalate of ammonia, produced only that slight turbidness in solutions of Louisiana molasses which is characteristic of all products from the juices of such plants as the sugar cane.

Specific gravity of Louisiana molasses, 1377.8.

The specific gravity in this case, as in all others recorded in this report, was accurately determined upon the balance, and not in the ordinary and less accurate method with the saccharometer.

The following is the composition of 70,000 grains of Louisiana molasses as determined by chemical analysis.

SEVENTY THOUSAND GRAINS OF LOUISIANA MOLASSES CONTAIN :

Sugar.

Sugar, including both varieties, Crystalizable and Uncrystalizable, grains 53,845.20	Crystalizable sugar, grains	41,845.2
	Uncrystalizable " "	12,000.0

Saline Constitutents.

Carbonate and Glucate of Lime	grains	86.39
Sulphate of Lime	"	142.83
Chlorides of Sodium and Potassium	"	156.15

Seventy thousand grains, yielded upon analysis, the individual components of the salts in the following quantities .

Lime	grains	107.18
Chlorine	"	95.09
Sulphuric Acid	"	89.03

In the determination of the amounts of crystalizable and uncrystalizable sugar, the method of M. Barreswill was employed in this case, as in all the other analyses recorded in this report.

The method of Barreswill is founded upon the following facts :

Grade sugar forms definite but unstable combinations with the alkaline bases; and their compounds, even at ordinary temperatures, gradually undergo change. Their solution, which is at first strongly alkaline, becomes neutral, owing to the formation of a powerful, colorless but uncrystalizable acid (*glucic acid*), which remains in combination with the base.

Glucic acid, when boiled with water, absorbs oxygen and becomes brown. A new acid which is not crystallizable, termed by Mulder apoglucic acid, is formed. If an alkaline solution of grape sugar be heated, the sugar is rapidly destroyed, or converted into a dark brown acid body, termed *melassic acid.* This body has a powerful affinity for oxygen, and when boiled with an alkaline solution, to which a salt of black oxide of copper has been added, speedily reduces the black oxide of this metal to the condition of the red oxide.

The amount of sugar which any mixture contains may be estimated by an alkaline solution of tartrate of copper and potash of known strength.

Fehling recommends for the preparation of the standard copper solution the following proportions, as reduced to English weights; 1 ounce of crys-

tallized sulphate of copper; three ounces of cream of tartar; one and a half ounces of pure carbonate of potash; fourteen or sixteen ounces of a solution of caustic soda (Sp. Gr., 1.12), and water, until the solution measures 15,160 water grains. Two hundred measured grains of this solution contain a quantity of copper, which would be reduced by one grain of sugar reducing ten equivalents of the black oxide of copper to the state of suboxide.

A given volume of this solution is placed in a porcelain capsule and heated nearly to its boiling point. The solution of sugar to be tested is then added by degrees from a burette, until the addition of the syrup ceases to produce any further precipitate. The proportion of sugar which is present in the liquid will be inversely as the volume of the saccharine solution consumed.

Cane sugar, however, does not reduce the alkaline solution of tartrate of copper; consequently, no indication of the presence of cane sugar is afforded by this re-agent. Nevertheless, a quantative determination, even of this variety of sugar, may be effected by means of this method, provided that a given volume of the saccharine liquid, accidulated slightly with sulphuric acid, be diluted with water and boiled two or three hours. The cane sugar is thus converted into fruit sugar, and on diluting this liquid with water until it occupies a definite volume, the proportion of altered sugar which it contains may be ascertained.

Supposing both kinds of sugars to be present, a preliminary experiment is made before boiling with acid, in order to estimate the amount of fruit or of grape sugar, and by deducting this from the quantity found after acidulating the liquid and boiling, the proportion of the cane sugar is ascertained.

The results of the preceding analysis establishes not only the high commercial value of Louisiana molasses, but also its great purity and absolute freedom from all injurious ingredients.

Louisiana molasses is therefore valuable, not only as a source of crystallizable sugar, but also as an article of food of the most nutritious and superior quality.

NO. II.—CUBA MOLASSES.

Physical Properties.—Dark reddish brown color, with black flakes and specks of carbonized organic matters. Upon standing, deposited a slight, dark colored, inclining to black sediment.

Taste peculiar to Cuba molasses, and giving the impression of saline ingredients.

Chemical Properties.---Ferrocyanide of potassium, ferricyanide of potassium and tincture of galls, revealed the presence of the oxides of iron in small amount. Upon chemical analysis of the molasses in solution, and of the saline ingredients upon incineration, no other metallic salts were detected.

Solutions of chloride of silver, chloride of barium and oxalate of ammonia produce bulky precipitates.

Upon incineration, the saline residue amounted to 2100 grains in 70,000; and the saline constituents presented a reddish brown color, from the presence of the oxide of iron.

Specific gravity 1376.4.

The following is the composition of 70,000 grains of Cuba molasses:

70,000 GRAINS OF CUBA MOLASSES CONTAIN:

Sugar.

Sugar, including both varieties, Crystallizable and Uncrystallizable grains 46,666	Crystallizable sugar, grains		30,194
	Uncrystallizable "	"	16,472

Saline Constituents.

Carbonates of Soda, Potassa and Magnesia	grains	350.94
Carbonate of Glucate of Lime	"	634.10
Sulphate of Lime	"	254.27
Chloride of Sodium and Potassium	"	738.19
Sulphate, Carbonate and Glucate of Iron	"	122.50

Seventy thousand grains yielded, upon analysis, the individual components of the salts in the following quantities:

Lime	grains	459.27
Chlorine	"	439.90
Sulphuric Acid	"	149.96
Salts of Iron	"	122.50

NO. III.—LONG ISLAND FACTORY MOLASSES.

Physical Properties.—Dark reddish brown, almost black color. Taste similar to that of Cuba molasses. Contains black specks, as in the case of Cuba molasses.

Specific gravity, 1391.7.

Chemical Properties.—Ferrocyanide and ferricyanide of potassium and tincture of galls gave evidence of the presence of the salts of iron.

The saline matters obtained by incineration gave evidence of the presence of the oxide of iron in the brownish red color. The characteristic tests of such metels, as lead, tin and copper, failed to reveal their presence either in solutions of the crude molasses, or in solutions of the saline ingredients. the saline ingredients obtained by incineration were even more abundant than in the Cuba molasses, being 2625 grains in 70,000 grains of Long Island Molasses.

The following is the composition of 70,000 grains of Long Island factory molasses:

70,000 GRAINS OF LONG ISLAND FACTORY MOLASSES CONTAIN:

Sugar.

Sugar, including both varieties, Crystallizable and Uncrystallizable, 38,888.88 grs.	Crystallizable sugar, grains		20,222.88.
	Uncrystallizable "	"	18,666.00.

Saline Constituents.

Carbonates of Soda, and Magnesia	grains	488.49
Carbonate and Glucate of lime	"	779.69
Chlorides of Sodium and Potassium	"	894.35
Sulphate of Lime	"	259.47
Sulphate Carbonate and Glucate of Iron	"	203.00

Seventy thousand grains yielded the individual components of the salts in the following quantities:

Lime	grains	543.05
Chlorine	"	545.07
Sulphuric Acid	"	152.63
Salts of Iron	"	203.00

NO. IV.—100 BARRELS NORTHERN MOLASSES.

Physical Properties.—Dark, reddish brown color. Unpleasant taste, leaving the astringent, metallic taste of the salts of iron, and more especially of copperas, upon the tongue.

This kind of molasses is said to blacken the teeth and derange the bowels.

Ferrocyanide and ferricyanide of potassium and tincture of galls, and other characteristic tests of the salts of iron, gave decided precipitates with this metal. When a solution of ferrocyanide of potassium is added to a solution of this molasses it is changed to a deep blue color, from the formation of prussian blue.

The ash obtained by incineration, which amounted to 1750 grains in 70,000, was colored of a deep reddish brown color, from the presence of the oxides of iron.

Both the crude molasses in solution, and the ash obtained by incineration, were carefully tested for various metallic salts, as those of lead, copper and tin, but no other metallic body besides iron was discovered.

Secific gravity 1372.5.

70,000 GRAINS (100 BARRELS) OF NORTHERN MOLASSES CONTAIN:

Sugar.

Sugar, including both varieties, Crystallizable and Uncrystallizable 40,000 grains	Crystallizable sugar, grains		20,000
	Uncrystallizable " "		20,000

Saline Constituents.

Carbonates of Soda, Potassa and Magnesia	grains	169.05
Carbonate and Glucate of Lime	"	250.77
Sulphate of Lime	"	428.57
Chlorides of Sodium and Potassium	"	551.61
Salts and Oxides of Iron	"	350.00

Seventy thousand grains yielded the individual components of the salts in the following quantities:

Lime	grains	316.9
Chlorine	"	311.4
Sulphuric Acid	"	252.1
Salts and Oxides of Iron	"	350.0

PHYSICAL PROPERTIES—DARK BROWNISH, ALMOST BLACK COLOR, WHEN SEEN IN MASS.

No. V. Seventy-nine barrels Northern Syrup.

Sour taste, but leaves a decided astringent and metallic taste in the mouth, similar to that of a solution of copperas.

The characteristic tests for iron, as ferrocyanide and ferricyanide of potassium and tincture of galls, gave heavy precipitates, and abundant evidences of the presence of the salts of iron in considerable amounts.

The characteristic tests for lead, tin, copper and other metallic salts, applied to the molasses in solution, and to the saline constituents, revealed their absence.

The salts of iron were the only metallic compounds present.

The saline constituents, which amounted to 1750 grains in 70,000 grains of molasses, were discolored of a deep brown color from the presence of the salts of iron.

The prussian blue precipitated from this Northern molasses was collected upon a filter; it made fully as striking an appearance as in the case of the preceding sample.

The following is the composition of 70,000 grains of these seventy-five barrels Northern syrup.

SEVENTY THOUSAND GRAINS (SEVENTY-NINE BARRELS) OF NORTHERN SYRUP CONTAIN.

Sugar.

Sugar, including both varieties, Crystalizable, 40,000 grains	Crystallizable sugar, grains		18,461.20
	Uncrystallizable " "		21,538.00

Saline Constituents.

Carbonates and Glucates of Soda, Potassa and Magnesia	grains	437.62
Carbonate and Glucate of Lime	"	328.36
Sulphate of Lime	"	561.22
Chlorides of Sodium and Potassium	"	709.80
Sulphate, Carbonate, Glucate and Oxide of Iron	"	243.00

Seventy thousand grains yielded the individual components of the salts in the following quantities.

Lime	grains	415.00

Chlorine	"	430.50
Sulphuric Acid	"	330.13
Salts of Iron	"	343.00

The results of the preceding analyses have been calculated for a uniform quantity in each analysis of 70,000 grains, because this is precisely the weight of one gallon of dislilled water at 60°.

Thus the weight of one gallon of these various samples of molasses is, respectively:

Weight of one gallon of Louisiana molasses	grains	96,446
Weight of one gallon of Cuba molasses	"	95,648
Weight of one gallon of Long Island molasses	"	97,419
Weight of one gallon (100 barrels) of Northern molasses	"	96,075
Weight of one gallon (75 barrels) of Northern molasses	"	96,419

If, therefore, the analyses be all calculated for 100,000 grains, the proportions would represent very nearly those of one gallon of each of the samples of molasses reduced to a uniform standard. The figures would be slightly in excess of the actual amounts contained in each gallon, but for practical and commercial purposes would be sufficiently accurate.

The following table presents the actual amounts of the constituents entering into 100,000 grains, or very nearly one gallon of each of these varieties of molasses:

TABLE GIVING THE COMPOSITION OF 100,000 GRAINS (VERY NEARLY ONE GALLON) OF EACH OF THE VARIETIES OF MOLASSES, ANALYZED IN THE PRESENT REPORT.

CONSTITUENTS.	Louisiana Molasses. No. 1. Grains.	Cuba Molasses. No. 2. Grains.	Long Island Factory Molasses. No. 3. Grains.	One hundred Barr'ls Northern Molasses No. 4. Grains.	Seventy-nine Barr'ls Northern Molasses No. 5. Grains.
Both varieties of sugar, crystallizable and uncrystallizable	76927	66665	55555	57142	57142
Crystallizable sugar	59778	43134	28889	28571	26373
Non-crystalilizable sugar	16921	23521	20665	28571	30769
Saline Ingredients.					
Carbonates of soda, potassa, etc		501	697	241	625
Carbonate and glucate of lime	123	905	1113	358	468
Sulphate of lime	204	363	370	612	801
Chloride of sodium and potassium	213	1054	1277	788	1012
Salts of iron		175	288	500	490
Total saline ingredients	550	3000	3750	2500	2500

The *percentage* of the different ingredients may readily be determined in the preceding table, simply by cutting off the three last figures.

The following conclusions have been drawn from the preceding analyses:

1. The Louisiana molasses is decidedly superior in appearance and taste to the other four samples of molasses.

2. The proportion of crystallizable sugar is greatest in Louisiana molasses, whilst the proportion of uncrystallizable sugar is the least.

Thus, the proportions of sugar in the different samples are as follows: In Louisiana molasses, 59 per cent of crystallizable sugar, and 16 per cent uncrystallizable sugar; in Cuba molasses, 43 per cent of crystallizable

sugar, 23 per cent uncrystallizable sugar; in Long Island molasses, 28 per cent crystallizable sugar 26 per cent uncrystallizable sugar; in 100 barrels Northern molasses, 28 per cent crystallizable sugar, and 28 per cent uncrystallizable sugar; in 79 barrels Northern syrup, 26 per cent crystallizable sugar, and 30 per cent uncrystallizable sugar.

3. The Louisiana molasses is, therefore, the best for the sugar refiner, because it contains the largest amount of crystallizable sugar.

4. Molasses consists of a concentrated solution of the products of the conversion of raw sugar into caramel and other products of decomposition, which, however, compose the smallest portion of the entire mass. It contains, also, those saits which are not precipitated by lime, and which have accumulated; also, certain soluble salts of lime and combinations with the sugar; also, compounds of sugar with the salts; and lastly, a kind of gum or mucus.

The solution of all these substances is necessarily saturated with raw sugar. In a practical point of view, therefore, without reference to the foreign ingredients, molasses is a solution containing sugar in two modifications, in the crystallizable and uncrystallizable condition.

The sugar trade will only be established upon a sure footing when those interested in it are enabled, at any time, to obtain an accurate knowledge of the real intrinsic value of the raw material.

The value of these goods consists, according to circumstances, either in the amount of saccharine matter generally, or in the amount of crystallizable cane sugar, or in the entire quantity of both which they contain.

In other words, a test is very much required, or a means of accurately ascertaing this value readily, without any special experience or knowledge, and at in inconsiderable cost and trouble.

A test of this kind would be invaluable to refiners, and for the collection of duties and imports.

No part of the business of the refiner is of so great importance as the purchase of the raw material, since a knowledge of the quantity of raw sugar can only be attained by long practice and experience.

A person posessing a sound knowlege of the markets with only a superficial knowledge of the technical processes of manufacture, will have a great advantage over the most able practical refiner, who is without experience in the purchase of raw sugar.

It will be also quite impossible to preserve the integrity of the principle upon which the duty is levied, from frauds and the like, so long as the duty is levied upon the external forms and appearances of the produce, and from the want of an accurate test and the real value of the article.

The loss of sugar in the process of abstraction from the cane, and subsequent boiling is very great. Only two-thirds of the juice are actually obtained by the ordinary process, and these only contain 12 per cent of the sugar contained in the fresh cane, so that 6 per cent of the sugar is left in the bagasse or fibrous structures of this sugar cane.

In the cane juice, as first expressed, the entire amount of sugar is of that crystallizable variety, and varies in amount from 18 to 22 per cent, the mineral matter varying from 0.14 to 0.21 per cent.

It is, therefore, worthy of note, that by the present process of boiling, of the 18 or 20 per cent of crystallizable cane sugar which is contained in the sugar cane, not more than $7\frac{1}{2}$, or between 6 and 10 per cent is actually obtained, or not quite one-half. Two causes are principally active in producing this loss: First, the defective method of exposing the juice; second, the chemical changeability of the sugar, which, during the course of boil-

ing, gives rise to the production of the well known secondary product, molasses or uncrystallized sugar.

The uncrystallizable sugar is capable of being substituted for cane sugar only in a very limited number of cases, and will by no means supply its place for sweetening tea or coffee, or other alimentary substances. For these purposes, it is, however, that a large amount of sugar consumed is employed. The causes for this arise from greater difficulty of crystallizing grape sugar, which is a guarantee to the public of its purity, and its lesser sustaining power and degree of solubility.

Both kinds of sugar are soluble, in all proportions, in boiling water; but under similar circumstances, 100 parts of grape sugar require 133 parts, or according to others 163 parts of cold water; while 100 parts cane sugar only require 33 parts to be completely dissolved. In both cases, whether the water is hot or cold, the solution of the grape sugar takes place more slowly; and in order to produce an equal sustaining effect, two-and-a-half times as much grape sugar as cane sugar is required.

Powdered grape sugar has a flowery taste, when placed upon the tongue, and very gradually becomes sweet as it dissolves, leaving a mucilaginous taste at the same time; cane sugar gives a perfectly sweet taste, in a much greater degree, and in a direct manner.

In order to render the two kinds upon an equality, in an economical point of view, five pounds of grape sugar should only cost as much as two pounds of cane sugar.

5. The Louisiana molasses contains far less inorganic salts than the other varities of molasses. Thus a gallon of Louisiana syrup contains about 500 grains of salts, whilst two other varieties contain from 2500 to 3700 grains per gallon.

This point is of great interest to the sugar manufacturer and refiner, because the presence of these salts explains not only the difficulty attending the crystallization of molasses, but also its power of absorbing moisture from the air, which it communicates to the raw sugar. It is well known that many kinds of raw sugar melt into syrup when exposed to the atmosphere.

These salts also account for the purging action of the molasses.

The Louisiana molasses may be considered as almost entirely free from these impurities.

6. The Louisiana molasses is entirely free from iron salts, whilst in the samples of Northern molasses these salts of iron vary from 280 to 500 grains per gallon. Cuba molasses in like manner contains iron salts, but to a less degree.

The salts of iron contained in the Northern molasses, are injurious to the health, and especially to children, and at the same time they *blacken and injure* the teeth.

7. In every respect the Louisiana molasses is superior to each of the other samples of molasses, and combines richness and purity of composition with an elegant appearance and pure taste and wholesome action. As an article of food it is far superior to the Northern molasses, and should, for this purpose, command at least four-fifths more than the price of the latter.

COTTON SEED OIL.

On submitting to strong pressure the oily seeds of the cotton plant *(Gossypium barbadense)*, a valuable and agreeable smelling and pleasant tasted oil is obtained, which, in a purified state, is now employed for the usual purposes in commerce and in the arts, and in pharmacy, for which other brands of oils and fats are employed.

The production of cotton seed oil has been steadily increasing, and large importations of the oil and cake are annually made from New Orleans to England, France and other European countries.

As the cotton seed oil shipped to France, Spain and Italy is often returned to this country labled "Olive Oil," it is of great importance to the citizens of the United States to ascertain whether cotton seed oil is a proper substitute for olive oil—whether, in fact, it be wholesome.

This inquiry is entirely pertinent, because it is well known that the root of the cotton plant is a powerful and even dangerous medicine.

I have endeavored to examine this question with care, and have employed the cotton seed oil as a local application, and as the basis of liniments in the treatment of various painful affections, as rheumatism, with marked benefit, and no instance has come to my knowledge in which its use as a substitute for olive oil has produced any deleterious effect. The following facts, also established by a careful personal investigation of the nutritive value and chemical composition and agricultural uses of the cotton seed, have led me to believe that cotton seed oil may be substituted with impunity for olive oil, both as food and as a basis for liniments.

In Europe the cotton seed cake is regarded with high favor, both on account of its great nutritive value and as a superior manure. The value of cotton seed as an efficient fertilizer has long been recognized by experienced planters in the Southern, Atlantic and Gulf States.

REPORT ON THE NUTRITIVE AND AGRICULTURAL VALUE OF DECORTICATED COTTON SEED CAKE AND MEAL.

BY JOSEPH JONES, M. D.

In accordance with the request of the directors and officers of the Louisiana Oil Company, I have carefully inspected the works and subjected the cotton seed and its products to careful chemical examination, with the following results:

On submitting to strong pressure the oily seeds of the cotton plant (*Gossypium barbadense*), a valuable and agreeable smelling and pleasant tasted oil is obtained, which in a purified state is now employed for the usual purposes, in commerce and in the arts, and in pharmacy, for which other kinds of oils and fats are employed.

The production of cotton seed oil has been steadily increasing, and large importations of the oil and cake are annually made from New Orleans to England, France and other European countries.

In Europe the cotton seed cake is regarded with high favor, both on account of its great nutritive value, and as a superior manure.

The value of cotton seed as an efficient fertilizer, has long been recognized by experienced planters in the Southern, Atlantic and Gulf States.

PHYSICAL PROPERTIES AND CHEMICAL CONSTITUTION OF COTTON SEED CAKE AND MEAL AS MANUFACTURED BY THE LOUISIANA OIL COMPANY

The cotton seed cake and meal, prepared by the Louisiana Oil Company, is manufactured from the shelled or decorticated seed, and is far superior to that obtained from the whole seed, which contains less oil, and a much greater proportion of ligneous fibre.

The decorticated cotton seed cake has a rich yellow color, is free from any strong or disagreeable smell, and has an agreeable taste; it is almost entirely free from the dark brown, comparatively valueless seed shells; and it does not contain any large amount of mucilage, nor anything that produces on

mixing with water, a volatile, pungent or injurious essential oil. Cattle take to it at once, and rapidly improve in flesh and fat when fed upon it; and so valuable is this article regarded by the most experienced and intelligent European farmers, for the feeding of stock, that it readily commands from £6 to £8 per ton.

Owing to its superior qualities as food, it offers considerable economic advantages to the feeders of stock in comparison not only with other varieties of cake, but also with corn and wheat.

The chemical composition of the decorticated cotton seed cake is presented in the following tables:

CHEMICAL ANALYSIS BY JOSEPH JONES, M. D., OF DICORTICATED COTTON SEED CAKE AND MEAL, MANUFACTURED BY LOUISIANA OIL COMPANY.

One hundred parts of decorticated cotton seed cake and meal contain:

Water	8.65
Oil	18.75
Albuminous compounds, (*flesh forming principles*), capable of yielding 6.5 per cent of Nitrogen; valuable as a fertilizer; in the soil undergoes rapid change and yields Ammonia, Carbonic Acid and Phosphates	38.50
Sugar, Starch, Gum, Mucilage, digestible fibre, &c. (Heat producing matter), valuable as food	26.60
Mineral matters; ash composed chiefly of phosphate of lime and potash 7.5 per cent capable of forming blood and bones in stock, valuable as a fertilizer: composed of	
Phosphate of Lime	3.04
Phosphate of Potassa	3.51
Chlorides, containing chlorine 0.18	0.30
Sulphates, containing sulphuric acid 0.19	0.43
Carbonates of lime and magnesia	0.20
One hundred part of ash of seed, contain:	
Phosphate of lime	30.62
Phosphate of potassa	46.87
Chlorides of sodium and potassium, containing chlorine 2.42	3.97
Sulphates of soda, potassa and magnesia, containing sulphuric acid, 2.59	5.65
Carbonates of lime and magnesia	2.85

NUTRITIVE AND AGRICULTURAL VALUE OF COTTON SEED CAKE AND MEAL.

The nutritive and agricultural value of decorticated cotton seed cake will be readily seen from the following table giving the composition per ton:

One ton of decorticated cotton seed cake contains:

Oil	lbs. 375.00
Albuminous compounds (*flesh-forming principles*), capable of yielding 130 lbs. of nitrogen	lbs. 770.00
Starch, sugar, gum, mucilage and digestible fiber (heat producing elements)	lbs. 532.00
Mineral matters, composed chiefly of phosphates of lime and potash, capable of forming blood and bones, and valuable as a fertilizer, especially to grain, 150 lbs.	
Phosphate of lime	60.80
Phosphate of potash	70.20
Chlorides	6.00
Sulphates	8.40
Carbonates of lime and magnesia	4.00

Each ton of decorticated cotton seed cake will yield 375 pounds of oil, 770 pounds of albuminous compounds *(flesh-producing principles)*, 532 pounds of sugar, starch, gum, mucilage and wood fibre *(heat-producing agents)*, and 150 pounds of salts. Total nutritive elements in one ton, 1827 pounds. It is fair to estimate the value of this food, rich in oil, nitrogenized matters and phosphates, at two cents per pound. This estimate is under rather than above the nutritive value in the feeding and fattening of stock.

Nutritive value of one ton of decorticated cotton seed cake and meal, manufactured by Louisiana Oil Company, $36.74.

In computing the agricultural value, it should be observed that each ton is capable of yielding 130 pounds of nitrogen, which alone may be estimated as possessing an agricultural value of from $26 to $32.50, and the phosphate of lime and potash possess an agricultural value of $7. The agricultural value does not, therefore, differ materially from the nutritive value.

RELATIVE VALUE OF COTTON SEED CAKE AND MEAL, AND PRACTICAL CONCLUSIONS.

1. The proportion of oil is higher than in the best linseed cake, which rarely contains more than from 10 to 13 per cent of this ingredient which is so valuable for supplying fat to animals.

2. Decorticated cotton seed cake contains a very high and much higher percentage of nitrogenized flesh-producing matter than linseed cake, corn, wheat, oats, barley, beans and peas, and this renders it especially valuable as food for young stock and dairy cows. As a large proportion of the nitrogen of the food is not assimilated in the system, but passes away with the fæces and urine, the excrements produced by stock fed upon cotton seed cake will be found particularly valuable as manure.

3. The proportion of indigestible wood fibre in decorticated cotton seed cake is small, and not larger than in the best linseed cake.

4. The ash of cotton seed cake is rich in bone material; thus each ton is capable of yielding sixty pounds of phosphate of lime and seventy pounds of phosphate of potassa.

5. The physical condition of the cotton seed cake and meal, is excellent, and eminently suited to the digestion and nutrition of animals.

6. At this late day no planter in the Southern, Atlantic and Gulf States is ignorant of the fact that cotton seed will compare favorably in its effects with the best commercial fertilizers.

In the application of cotton seed as a manure the planter should act upon the principle that animal and vegetable manures should always be applied if possible in their natural condition, and should never be burned under the erroneous idea that the ash alone is valuable.

The organic matters of the cotton seed will generate ammonia, and at the same time during their decomposition, the salts will be slowly given out and supplied to the plants continuously during their growth.

The ashes of cotton seed, on the other hand, are readily washed by the rains, below where the roots of plants can penetrate. It will therefore greatly deteriorate if not completely destroy the value of cotton seed as a manure to burn the organic matter.

7. That cotton seed cake and meal is a potent fertilizer is evident not only from its acknowledged beneficial effects when applied to growing crops, but also from the following well established considerations:

Plants require a large portion of vegetable and animal matter, to afford a supply of carbon, in the shape of carbonic acid, and of nitrogen in the form of ammonia, both of which are evolved during the decomposition of organic substances. Cotton seed cake is most valuable to grain crops, because the seed of plants is, in all instances, the most highly azotized portion, and all plants require a supply of nitrogen to perfect their seed; which nitrogen cotton seed cake possesses in large proportion.

Cotton seed cake is quick in its effects, because fermentation and putrefaction take place almost immediately after its application to the growing plants, and carbonic acid and ammonia are supplied to the roots of plants in large proportions.

The plant in its infancy feeds upon or is developed out of the matter of the seed; but after it has developed certain fibres it begins to take up nourishment from the soil, while the green leaf or shoot which it has sent upwards extracts carbonic acid from the air; if the roots find no food, near they increase in number and length, and spread over a large surface; and in poor soils, from this cause, plants have an immense number of fibrous roots and a poor stunted stem, the numerous roots having been formed at the expense of matters which should have assisted the growth of the stem. Cotton seed cake, from its rapid decomposition and the comparativeiy large amounts of carbonic acid and ammonia evolved, supplies the young plants with the best liquid and gaseous food at the most critical period, and consequently enables the plants to develop stouter stems and more perfect and numerous leaves; for it appears to be well established that the sooner the plant escapes from the state of transition in which it derives its food from the seed, as well as from the soil and atmosphere, the sooner will its organs for extracting its food from the air and the soil be developed, the more vigorous will be their growth, and the more efficient their use in the process of vegetation.

Cotton seed cake ensures also a better supply of moisture to the plant, because it possesses the power of absorbing from twice to ten times as much atmospheric moisture as the finest soils.

8. Cotton seed cake and meal are greatly superior to farm yard manure, in soluble organic matters, and are equal to it in phosphates; and one ton equals in agricultural value, at least from ten to eighteen tons of farm yard compost.

9. One ton of cotton seed cake contains 150 pounds of saline matters, chiefly phosphates.

We have in this fact a strong argument for the use of cotton seed as a manure, in order that these salts should be returned, which are essential to the preservation of the fertility of the land.

The great advantage resulting from the appllcation of cotton seed as a manure for corn is referable to a high percentage of phosphoric acid and potash in corn. One thousand pounds of cotton seed are capable of yielding the necessary potash for about 7000 pounds of corn, and phosphoric acid for about 2200 pounds of the same grain.

Each ton of decorticated cotton seed cake will yield 375 pounds of oil, 770 pounds of albuminous compounds (*flesh producing principles*), 532 pounds of sugar, starch, gum, mucilage and woody fibre (heat producing agents, and 150 pounds of salts. Total nutritive elements in one ton, 1827 pounds.

It is fair to estimate the value of this food, rich in oil, nitrogenized matters and phosphates, at two cents per pound, or $36 74 per ton. In computing the agricultural value, it should be observed that each ton is capable of yielding 130 pounds of nitrogen, which alone may be estimated as possessing an agricultural value of from $26 to $32 50, and the phosphate of lime and potash posesses an agricultural value of $7.

The agricultural value does not, therefore, differ materially from the nutritive value.

The decorticated cotton seed cake has a rich yellow color, is free from any strong or disagreeable smell and has an agreeable taste; it is almost enterely free from the dark brown, comparatively valueless seed shells; and it does not contain any large amount of mucilage, nor anything that produces in mixing with water a volatile, pungent or injurious essential oil. Cattle take to it at once, and rapidly improve in flesh and fat when fed upon it; and so valuable is this article regarded by the most experienced

and intelligent European farmers, that it readily commands from £6 to £8 per ton.

Owing to the superior qualities as food, it offers considerable economic advantages to feeders of stock in comparison not only with other varieties of cake, but also with corn and wheat.

The preceding views have led me to the conclusion that cotton seed oil posesses valuable properties as a nutritive, oleangenous heat producing food for man, and as a substitute for olive oil and butter. I am at present engaged in testing its relative value to cod liver oil, in the treatment of phthisis pulmonalis.

LOUISIANA ROCK SALTS FROM PETITE ANSE ISLAND.

Salt should be regarded not merely as a condiment, but as a most valuable mineral constituent of our food and of the solids and fluids of the human body.

Fortunately Louisiana produces her own salt of the purest quality and in vast and unknown quantities in Petite Anse or Avery's Island.

CHEMICAL EXAMINATION OF LOUISIANA ROCK SALT AND OF TURK'S ISLAND SALT, WITH CRITICAL COMPARISONS WITH OTHER VARIETIES OF SALT FROM VARIOUS COUNTRIES, BY JOSEPH JONES, M. D.

LOUISIANA ROCK SALT.

Louisiana rock salt presents the form, appearance and optical properties of pure chloride of sodium. The large crystalline masses are so perfectly transparent and free from all extraneous matter and are so uniform in their structure and density that they would be suited in all respects for the most delicate philosophical experiments upon the transmission of heat through different media. The entire mass of the samples selected was made up of crystals and fragments of crystals, derived from the cube, the primitive form of chloride of sodium. The crystals present a foliated texture and distinct cleavage; they feel when rubbed in the hand dry, and left no impression of moisture or of saline matter.

The sample of Louisiane rock salt submitted to analysis, as well as the large solid masses, weighing several tons, are the purest and finest samples of rock salt that have ever come under my observation.

One hundred grains of Louisiana rock salt yield upon analysis:

Chloride of Sodium (common salt)	99,617
Sulphate of Lime	0.318
Sulphate of Magnesia	0.062
Moisture (dried at 300°)	0.093

It will be observed from this analysis that the Louisiana rock salt contains less than one-half of one per cent (0.473) of those substances which may be considered as foreign, viz: moisture, and sulphates of lime and magnesia; and which are found in greater or less quantities, according to their purity, in almost all samples of salt.

The absence of both chloride of calcium and chloride of magnesium is important as these salts absorb moisture readily from the atmosphere, and when existing to even a limited extent in salt impairs more or less its value, by rendering it more hygroscopic. Meats cured with salt abounding in the chloride of calcium are more prone to absorb moisture from the atmosphere.

TURK'S ISLAND SALT.

The sample of Turk's Island salt submitted to my examination presented a less uniform appearance; some of the crystals being semi-transparent, whilst others were opaque. The differences were due rather to physical than chemical properties.

One hundred grains of Turk's Island salt was found upon analysis to contain:

Chloride of Sodium	98.880
Sulphate of Lime	0.569
Sulphate of Magnesia	0.185
Moisture	0.341
Insoluble matters (sand' etc)	0.040

It will be seen from this analysis that the Turk's Island salt, although excellent in quality and yielding a large proportion of cloride of sodium, at the same time is somewhat inferior to the Louisiana rock salt. The Turk's Island salt yields a little over one per cent (1.12) of foreign matters, which add nothing to its antiseptic properties; whilst the Louisiana rock salt yields less than one half of one per cent.

RESULT OF THE COMPARISON OF THE CHEMICAL COMPOSITION OF LOUISIANA ROCK SALT WITH THAT OF TURK'S ISLAND.

From this comparison we conclude:

1. The Louisiana rock salt may be considered as essentially pure chloride of sodium.

2. The Louisiana rock salt is superior in apperance and in physical properties to the Turk's Island salt.

3. The Louisiana salt contains less moisture and less adventitious matters than the Turk's Island.

4. The Louisiana salt contains nothing injurious whatever to meat, and is essentially and eminently adapted for all the uses to which this valuable mineral is applied in the preparation of food, or in the arts and agriculture.

It remains that a comparison should be instituted between the Louisiana rock salt and that of various other localities.

The tables on the following page present the composition of salt derived from different parts of the earth, and from the sea water and brine springs:

ANALYSIS OF VARIETIES OF COMMON SALT FROM EUROPE AND AMERICA.

ORIGIN OF SALT—NAME OF CHEMIST.	REMARKS.	Chloride of Sodium.	Chloride of Magnesium.	Chloride of Calcium.	Sulphate of Soda.	Sulphate of Magnesia.	Sulphate of Lime.	Clay & Insoluble matters.	Oxide of Iron.	Other Salts.
Louisiana Rock Salt—Joseph Jones, M. D.	Moisture separated at 300° F.	99.62	.....	.....	....	0.06	0.31	.....	.....	.....
Turks' Island Salt—Joseph Jones, M. D.	Moisture separated at 300° F.	98.88	.....	.....	.....	0.18	0.56	0.04	.....	.....
Sal-gem of Vic white	Amount of moisture not stated in analysis	99.30	.....	.....	...	.....	0.005	0.02	.....	.....
Sal-gem of Vic red	Amount of moisture not stated in analysis	99.80	.....	.....	.....	.....	.....	0.002	.....	.....
Crushed Cheshire Salt 66.	Amount of moisture not stated in analysis	98.33	0.02	.....	....	.....	0.65	.....	0.002	.....
Salt Springs, Schonbeck, Westphalia	Amount of moisture not stated in analysis	93.90	0.30	.....	1.00	.....	0.80	.....	.....	.....
Salt Springs, Moutiers, des cordes	Amount of moisture not stated in analysis	97.17	0.25	.....	2.00	0.58	.....	.....	.....	.....
Salt Springs, Moutiers, boilers.	Amount of moisture not stated in analysis	93.59	0.61	.....	5.55	0.25	.....	.....	.....	.....
Salt Springs, Chateau Salin's	Amount of moisture not stated in analysis	97 82	2.12	.....	.....	...	...	.....	.....	.....
Salt Springs, White of Sulz.	Amount of moisture not stated in analysis	96.88	3.12	.....	0.005	....	.....	.....	.....	.....
Salt Springs, Ludwigshall middle grained	Amount of moisture not stated in analysis	99.45	.....	.....	...	.....	0.28	.....	.....	.....
Salt Springs, Kœnigsborn, Westphalia	Amount of moisture not stated in analysis	95.90	....	0.27	....	.....	1.10	.....	.....	.....
Sea Salt, half white	Amount of moisture not stated in analysis	97.20	0.004	.....	.....	0.05	1 12	0.07	.....	.....
Sea Salt of, Saint Malo	Amount of moisture not stated in analysis	96.00	0.30	.....	.....	0.45	2.35	.....	.....	.....
Common Scottish Salt	Amount of moisture not stated in analysis	93.55	2.80	.....	....	1.75	1.50	.....	.....	.....
Lymington, common (Henry)	Amount of moisture not stated in analysis	93.7	1.1	.....	....	3.50	1.50	2 00	.....	.....
Lymington, cat (Henry)	Amount of moisture not stated in analysis	98.8	0.5	...	....	0.5	0.1	.....	.....	.....
Cheshire, stoved	Amount of moisture not stated in analysis	98.25	0.075	0.02	....	.....	1.55	.....	.....	.....
Rock Salt from Wieliczka, White variety (specimen selected for its purity by Bischof.)	Dried at 212°, moisture not stated. On being dr'dgave a littlewater	100.00	trace.	trace.	....	.....	...	.....	.....	.....
Wieliczka (Hrdina)	Dried at 212°	97.95	0.54	.....	....	0.62	0.20	.....	0.08	0.62
Rock Salt from Berchtesgaden, fibrous variety (Bischof)	Dried at 212°	99.85	0.15	trace.	....	.....	.....	.....	.....	.....
Rock Salt from Berchtesgaden, yellow variety, (Bischof)	Dried at 212°	99.92	0.072	.....	....	.....	.....	.....	.....	.....

ANALYSIS OF SALT FROM EUROPE AND AMERICA.

ORIGIN OF SALT—NAME OF CHEMIST.	REMARKS	Chloride of Sodium.	Chloride of Magnesium.	Chloride of Calcium.	Sulphate of Soda.	Sulphate of Magnesia.	Sulphate of Lime.	Clay and Insoluble Matter.	Oxide of Iron.	Carbonate of Lime.	Carbonate of Magnesia	Aluminate and Peroxide of Iron	Water.
Rock Salt from Hall, in the Tyroll (Bischof).	Dried at 212°.	99.43	0.12	0.25	...	...	0 20	....	....	....	...	.....	.....
Rock Salt—cracking salt from Hallstadt, in Austria (Bischoff)	Dried at 212°.	98.14	..	.....	....	....	1.86	....	..	....	...	.....	...
Rock Salt from Schwabisch Hall (Bischof)	.....	99.63	0.28	0.09	....	....	.....	....	....	....	....	.....	.....
Pure Rock Salt from Wilhelmsgluck, at Schwabisch Hall (Fehling)	.....	99.97	....	.....	....	...	0.02	...	....	...	....	0 01	....
Rock Salt from Wilhelmsgluck, at Schwabisch Hall (Fehling)	.....	98.36	....	.....	0.03	..	0 55	....	....	0.52	0.13	0.53	....
Rock Salt from Wilhelmsgluck, at Schwabisch Hall (Fehling)	.....	98.81	....	0.02	....	....	0.11	....	..	0.16	0.15	0.30	...
Rock salt from Vic (Berthier).	.....	99.30	....	.....	....	....	0.50	....	....	....	....	0.20	....
Rock Salt from Djehel, Melah, in Algeria (Fournet)	After deduction of 6.6 silica and 0.4 water	97.00	...	....	....	....	3 00	....	....	....	....	.....	.....
Rock Salt from Ouled Kebbah, in Algeria (Fournet)	After deduction of silica and water	98.89	1.11	.....	....	....	.....		....	....	....	.....	..
Rock Salt from Ouled Kebbah, in Algeria (Fournet)	.....	98.53	0.59	0.93	....	....	.....	....	....	....	....	.....	.....
Rock Salt from Ouled Kebbah, in Algeria (Fournet)	.....	72.16	5.57	1.65	....	2.06	10.72	....	.	3 71	2.89	1.29	....
Rock Salt from Holston, in Virginia (C. B. Hayden)	.....	99.55	....	trace.	....	....	.....	...	...	....	0.45	....	....
Commercial Sea Salt, Venice (Schrotter & Pohl)	.....	98.95	...	0.19	....	....	0.51	...	....	...	....	....	....
Commercial Sea Salt Trepani, Sicily	.....	98.94	....	0.16	....	0.51	0.46	....	....	....	....	.....	....
Salt deposited in the bottom of Elton Lake (Gobel)	.....	98.79	....	0.13	....	0.35	1.64	.	....	..	....	.....	....
Sea Salt from St. Ubes, in Portugal (Berthier).	.....	95.19	....	.....	...	1.69	0.56	....	....	....	....	...	3.45
Sea Salt from St. Ubes, in Portugal (Berthier)	.....	89.19	....	.....	....	6 20	0.81	0.20	....	....	....	....	3.60
Sea Salt from St. Ubes, in Portugal (Berthier)	.....	80.09	....	.....	....	7.27	3.57	0.20	...	....	....	....	8.36

It will be observed that in the vast majority of the preceding analyses the salt was first dried at 212°, and the amount of moisture is not stated. The neglect on the part of the various chemists to state the amount of moisture, of course, renders the analysis of the salt apparently somewhat better than it would otherwise have been. Notwithstanding that the most favorable conditions are on the side of the analyses of the salt from other countries, quoted in the tables, it will be found upon comparison that the Louisiana rock salt is of equal purity with the best samples of rock salt in the world, and is far superior to the commercial salt obtained from sea water and brine springs.

From the immense and inexhaustible deposits of Louisiana rock salt it must become a most important article of commerce and exchange throughout the Mississippi Valley.

We conclude, therefore, from the preceding facts:

1. The Louisiana rock salt may be considered as essentially pure chloride of sodium.

2. The Louisiana salt contains nothing injurious whatever to meat, and is essentially and eminently adapted to all the uses to which this valuable mineral is applied in the preparation of food or in the arts of agriculture.

ABUNDANT SUPPLIES OF FRUIT, GAME AND FISH IN LOUISIANA.

There is not perhaps on earth, a continuous tract of land of equal extent, presenting a greater diversity than Louisiana. Within its limits are included all the varieties, from the most recent and periodically inundated alluvium to hills approaching the magnitude of mountains; every quality of soil from the most productive to the most sterile, and from unwooded plains to dense forests.

All the southern part of this State is an alluvial tract of low champlain country, extending from Lake Borgne to Sabine River, and from the Gulf of Mexico to Baton Rouge and Red River—about 250 miles long, and from 70 to 140 wide. This extensive tract is intersected by numerous rivers, bays, creeks and lakes, dividing this country into a great number of islands.

The lower portions of the State extending up from the 28° 55′ of N. latitude, is adapted to the orange, fig and banana, whilst in the more elevated regions, peaches, pears, apples and the vine flourish.

The lakes, bayous and marshes abound with oysters, crabs, shrimp, fish of every variety and wild ducks and water fowl.

Of the mammalia suitable for food, in addition to the domestic animals (cattle, sheep, goats and swine), the forests, swamps and marshes of Louisiana afford in considerable abundance, the black bear (ursus Americanus), raccoon (procyon lotor), otter (lutra canadensis), wild cat (lynx rufus), panther (lynx discolor), fox squirrel (sciurus capistratus), grey squirrel (sciurus Carolinensis), ground squirrel (tamias listeri), flying squirrel (pteromys volucella), woodchuck (arctomys monax), musk rat (fiber zibethicus), swamp rabbit (lepus palustris), common rabbit (lepus sylvaticus), deer (cervus Virginianus), porpoise (delphinus phocœna), opossum (didelphis Virginianus), beaver (castor fiber).

The elk (cervus stongyloceros), and the bison (bos Americanus), that formerly roamed over the plains of Louisiana, have disappeared before the advance of civilization.

Of oviparous warm-blooded animals, fit for human consumption, Louisiana produces numerous species, some of which abound in the lakes and marshes, and contribute largely to the supply of human food. It will be sufficient to mention the following birds of Louisiana, which are consumed as food to a greater or less extent, according to their number, and according to the taste of the people: hen hawk (buteo borealis), chicken hawk (buteo lineatus), bald eagle (haliætus leucocephalus), fish hawk (pandion haliætus), barn owl (strix Americana), hooting owl (syrnium nebulosum), horned owl (bubo Virginianus), screech owl (bubo asio), king bird (muscicapa tyrannus), sealingwax bird (bombycillia Carolinesis). blue-bird (sialia sialis), cat-bird (orpheus Carolinesis), thrush (orpheus rufus), robin (turdus migratorius), chuck-will-window (caprimulgus Carolinesis), whippoorwill (caprimulgus vociferus), night-hawk (chordeiles Virginianus), nonpareil (spiza ciris), indigo-bird (spiza cyanea), maybird or goldfinch (carduelis tristis), red-bird (petylus cardinalis), summer red-bird (pyranga æstiva), rice-bird, (dolichonyx oryzivora), cow-bird (molothru picoris), redwing black-bird (agelaius phæniceus), jackdaw (quiscalus major), lark (sturnella ludoviciana), blue jay (garrulus cristatus), ivory billed woodpecker (picus principalis), log-cock (picus pileatus), yellow-bellied woodpecker (picus varius), red-headed woodpecker (picus erythrocephalus), rain-crow (coccyzus Americanus), ground dove (columba passerina), wild pigeon (ectopistes migratorius), turtle dove (ectopistes Carolinensis,) wild turkey

(meleagris gallopavo), partridge (ortyx Virgiana), pheasant (tetrao umbellus), plover (charadrius marmoratus), kildeer (charadrias vociferus), whooping crane (grus Americana), spoonbill (Platalea Aiaia), quew (ardea nycticorax), poorjoe (ardea exilis), blue crane (ardea ludoviciana and herodias), white crane (ardea candidissima), stone curlew (totanus semipalmatus), snipe (scolopox wilsoni), woodcock (microptera Americana), curlew (numenius longirostris , fresh water marsh hen (rallus elegans), salt water marsh hen (rallus crepitans), flamingo (phænicopterus ruber) diver (podiceps Carolinensis), ibis (tantalus loculator), white pelican (pelecanus Americanus), brown pelican (pelicanus fuscus), cormorant (plotus anhinga) black duck (anæs obscura), English or French duck, widgeon (anæs Americana), summer duck (anæs sponsa), green winged teal (anæs Carolinensis), blue winged teal (anæs discors,), canvassback duck (fuligula valisneria), wild goose (anser canadensis), shagpoke (mergus merganser).

Many other species of birds fit for food are found in Louisiana, and I have merely given examples of the different families to show the great variety of game with which the markets of New Orleans at certain seasons abound.

Of chelonians, Louisiana furnishes several varieties of great value as substantial articles of food, and even delicacies, suited to the most fastidious appetite, as follows: Gopher (testudo polyphemus), box cooter (cistuda Carolina), alligator cooter (chelonura serpentina), soft-shelled terrapin, (trionyx ferox), green turtle (chelonia mydas), loggerhead turtle (chelonia carretta), leatherbacked turtle (sphargis coriacea).

The Gulf of Mexico, the Mississippi river, the lakes and bayous, abound with fish of the greatest variety; and Louisiana produces not only the greatest abundance of delicious fish, but she has also sufficient to establish a large export trade. Amongst the important varieties of fish found in the waters of Louisiana, may be mentioned: Rockfish (labrax lineatus), grouper (serranus erythrogaster), blackfish (centropristis nigricans), trout (grystes salmoides), maw-mouth (centrarchus gulosus,) perch and chub [centrarchus and pomotis], flying fish [dactylopterus volitans], yellowtail [leisotomus xanthurus], bass [corvina ocellata], whiting [umbrina alburnus], drum [pogonias chromis], young drum [pogonais fasciatus], croker [micropognon undulatus], sheephead [sargus ovis], porgee [pagrus argyrops], anglefish [ephippus faber],Spanish mackerel (scomber colias), spring mackerel [scomber vernalis], pompano [tranchinotus pampanus and argentus], mullet [mugil albula], salt water catfish [galeicthys marinus], fresh water catfish [pimelodus catus], plaice and flounder [plateisa oblonga], salt water eel [muræna], fresh water eel [muræna].

In conclusion, the markets of New Orleans abound with oysters, crabs, crawfish and shrimp of the finest quality and the most delicate flavor.

No city upon the habitable globe is better supplied with the most valuable products of her soil, forests and waters than New Orleans, and her resources in the matter of food and fruits are enlarged to the greatest extent by the boundless resources of the tropical islands and continential regions lying to the south.

The inhabitants of New Orleans, and Louisiana generally, have as abundant supplies of the great staples of human food, and of fruits and game, and of the actual luxuries of life, as the most famed people of the globe; and we can live with as much comfort and luxury in this city as in New York, London or Paris.

The remarkable health and longevity of the natives, is referable at once to the mild climate and the abundant supplies and great variety of the agricultural products, fruits and game of the country.

If adulterations are practiced in articles of food, they are foreign to the people and soil, with the exception, perhaps, of milk. The extensive consumption in our day, of articles of food preserved in tin cans, is without doubt a source of danger and death from the accidental admixture of lead and other metallic salts; and the imported articles of food are no more free from adulterations than in other cities countries.

EFFECT OF OVERFLOWS UPON THE HEALTH OF THE INHABITANTS OF THE DELTA OF THE MISSISSIPPI RIVER.

OVERFLOW OF THE CITY OF NEW ORLEANS, ON THE RIGHT BANK OF THE MISSISSIPPI, BY THE WATERS OF THE LIVE OAK CREVASSE—RELATION OF OVERFLOWS TO DISEASE.

[Extract from the Report of Dr. Joseph Jones, President Board of Health, State of Louisiana, delivered at the regular meeting of the Board, June 22, 1882].

Three breaks occurred in the levee at Live Oak Grove Plantation, in the parish of Plaquemines, twenty-five miles below New Orleans, on the right bank of the river, March 17 and 18, 1882.

This water would have, in low stages of the river and swamps, found a comparatively rapid and effectual outlet, through Barataria Bay and its several arms and bayous; but the crevasses of the Bayou Lafourche, of January 29 and March 5, had filled the chain of lakes and the bayous and swamps connected with Bayou Barataria; thus on the west, Lake Cataouache, Lake Ouacha or Salvador, Little Lake, and Lake Villdiere and the surrounding swamps were filled with water, having very nearly the level of the Mississippi River; and although the water flowed continually through Barataria Bay into the Gulf, the volume rushing from above maintained the level. The high ridges of Bayous Barataria and Dupont also aided as a barrier bounding the low lands on the west, and inclosing a well marked basin between the high leveed borders or the Mississippi.

Although situated about twenty-five miles below New Orleans, the crevasse waters of Live Oak, gradually, from the causes mentioned, travelled up apparently against, or rather in a contrary direction of the natural flow and current of the Mississippi River, and filled the low lands lying between the banks of the Mississippi River and those above the above mentioned bayous, and before the end of March the waters had reached the rear of the various settlements on the right bank of the river, opposite New Orleans, known as Algiers, Gretna, McDonoghville, Tunisburg, Freetown, (Gouldsboro).

During the past month, the lower portion of these towns have been submerged, and but for the constitution of a levee at the rear portion of Algiers, the water would cover all portions, up to within three blocks of the Mississippl River.

This overflow has caused great inconvenience and exposure, and loss of time and money to the citizens of New Orleans, residing on the west bank, as has been rendered evident by personal inspections, the most recent of which was made in company with Hon. Ed. Booth, of the board. The question of moment for this board to consider is what effect will the overflow of New Orleans have upon the health of the citizens upon the west bank.

This question takes a wider range, and should embrace the effects upon the health and the lives of the people, of overflows generally. During the

remarkable flood of 1882, a large portion of the richest and most highly cultivated and thickly populated lands of Louisiana have been overflowed by the crevasses of Airlie or Alsatia, Illawarra, Raleigh and Pecan Grove, of East Carroll; Noland-Omega, Backbone, Morancy, Upper Delta and Bayou Vidal, Madison Parish; Ion and Woodbourn, Buckner's, Point Pleasant, Buck Ridge, Ship's Bayou, Upper Hardtimes, Lower Hardtimes, Ford-Field, Hardscrable, Bondurant, Kempe and Waterproof, Tensas Parish; Lake Concordia, Fish Pond Bayou, head of Atchafalaya, Merrick, Hagan, Torras, Smithland, Old River, Raccourci, Pointe Coupée, Pointe Coupée Parish; Arizona, Iberville Parish; Landry, Ascension Parish Story, Poydras, St. Bernard Parish; Like Oak Grove, Dobard, Guesnard, St. Sophie, Monsecour, Point-a la-Hache, O'Brien, Plaquemines Parish, and numerous others in Avoyelles, St. Landry and Lafourche parishes.

In considering in a sanitary and hygienic point of view, the effects of this vast inundation of the Delta of the Mississippi River, the inquiry should commence with a consideration of:

1. The chemical constitution of the waters of the Mississippi River.

2. The physical and chemical properties and physiological relations of the sediment deposited from the waters of the Mississippi upon the submerged surfaces.

1. *Chemical Constitution of the Waters of the Mississippi River,*

I have made the following examinations of the waters of the Mississippi River:

(a). Mississippi River water from the inlet pipe.

When first drawn the water presented a turbid appearance; upon standing the suspended matters settled, forming a light grayish yellow deposit; and the supernatant water remained slighty turbid from a small remaining portion of suspended matters.

The insoluble suspended matters amounted to twenty-three and two-tenths (23.2) grains to the gallon of water, and under the microscope were found to consist chiefly of very finely divided sand (Silicic acid) and the silicates of alumina and contained but few specimens of animalcules or vegetable structures.

After the removal of the suspended matters the water yielded a specific gravity similar to that of distilled water, and the amount of saline matter was found to be only eleven and nine-tenths (11.9) grains per gallon. Upon analysis it was found that those saline matters contained only traces of the sulphate of potassa, soda and magnesia, and consisted almost entirely of the carbonates of lime and chloride of sodium.

Each gallon contained 2.91 grains of lime (equivalent to 5.29 grains of carbonate of lime) and 3.378 grains of chlorine (equivalent to 5.53 grains of chloride of sodium, common salt).

One gallon (70,000 grains) of Mississippi water contained:

Specific gravity at 60° F	1000.00
Suspended matter deposited on standing	23.30
Fixed saline constituents	11.90
Carbonate of lime	5.29
Chloride of sodium	5.53
Carbonates and sulphates of soda, potassa and magnesia	1.08

From the results of the preceding analysis, and from those of many others which I have made, we conclude that the waters of the Mississippi, when freed from the suspended matters, are of great purity, and will compare favorable with the drinking water supplied to the largest and best

regulated cities in the world, and the truth of this assertion has been established by a critical comparison with the analysis of the various springs and rivers used for the supply of cities in America and Europe.

If the solid saline residue of one hundred thousand parts of the Mississippi River water be compared with the solid saline matters of the drinking waters of the noted springs and rivers of this and other countries, it will compare favorable with each, and is in fact far purer than the majority of drinking waters heretofore analyzed by chemists.

In each glass of Mississippi River water, less than half a grain of saline constituents are present, and this small amount, absolutely inappreciable in its affects upon the animal system, is composed almost entirely of common salt, and carbonate of lime. If these salts exert any effect upon the animal economy, it is beneficial, and not injurious. Thus, the lime salts are clearly related to the developement of the osseous and dental systems.

We conclude, therefore, that the mere presence of the Mississippi waters upon the overflowed lands will not necessarily cause sickness from any deleterious property or substance inherent in them.

2 *The physical and Chemical Properties and Physiological Relations of the Sediment Deposited from the Waters of the Mississippi upon the Submerged Surface.*

A point of considerable interest in a sanitary view, as established by the preceding and numerous other examinations, is that the suspended matters of the Mississippi River waters are, to a large degree, free from organic impurities, and consist almost entirely of finely divided silicic acid and silicates, The suspended matters, so far from rendering the waters of the Mississippi unfit for sanitary purposes, add to their disinfectant properties.

It is well known that clay, resembling in its general properties the sediment of the Mississippi River, is disinfectant in its properties, and surgeons have long known that dried clay pulverized forms an admirable application and dressing to compound comminuted fractures and gunshot wounds.

AMOUNT OF THE SEDIMENT CONTAINED IN THE WATERS OF THE MISSISSIPPI RIVER.

The amount of the sediment deposited from fixed quantities of the Mississippi River waters varies with the nature and extent of and sources of the overflows, but still certain results of a general and valuable character have been obtained from the careful collection and determination of the quantity of the sediment.

Mr. Meade and Mr. Lidell, assistants of Captain Talcott in his survey of the mouths of the Mississippi in 1838, measured the amount of sedimentary matter contained in the water. The former, from observations made in April and May, considers the quantity to be 1-1250th part by weight. The latter adopts 1-1724th for the ratio.

Professor Riddell's first experiments upon the amount of sediment contained in Mississippi water were reported in a letter addressed to Sir Charles Lyell on March 5, 1846, and gave a ratio of dry sedimentary matter to the weight of water and sediment of nearly one to 1245, and by volume of one to 3000. In his second series of experiments, in 1846 (extending from May 21 to August 31, 1846,) Professor Riddell estimated the ratio by weight of the sediment to the water as 1 to 1158.3.

The observations of Mr. Brown, at Natchez, July 1, 1846, June 30, 1848, and of Lieutenant Marr, at Memphis, in 1849, placed the relative amount of sediment at a much higher figure.

Professor Forshey. in 1851, in his experiment at Carrollton, established that the Mississippi water is not charged to its maximum capacity with sediment, and that the amount of sediment varied during the different periods of the year within wide limits; the maximum amount being 1-681, and the minimum 1-6383, mean 1-1808 by weight.

A comparison of the general results led Captain A. A. Humphreys and Lieutenant H. L. Abbot to the belief that no material error will result from assuming that the sediment of the Mississippi is to the water, by weight, nearly as 1 to 1500, and by volume nearly as 1 to 2900, provided long periods of time be considered.

If this be so, and if the mean annual discharge of the Mississippi proper be correctly assumed at 19.500,000,000,000 cubic feet, it follows that 812,-500,000,000 pounds of sedimentary matter, constituting one square mile of deposit, 241 feet in depth, are yearly transported in a state of suspension to the Gulf; or, adding to the mean annual discharge of the Mississippi at Carrollton the mean annual discharge of the three outlet bayous, we have for the total discharge from the basin 21,300,000,000,000 cubic feet, containing 887,500,000,000 pounds of earth matter, which is yearly deposited upon the delta proper.

When the Mississippi swamp lands are securely protected against overflows, the earthy matter which in their usual condition was annually deposited upon them, was carried to the Gulf.

The discharge into any one of the great swamps during the mean annual flood, may be taken as 100,000 cubic feet per second, during a period of one month and a half for the St. Francis, Yazoo and Tensas, and three months for the Atchafalaya bottom, or delta proper. Taking into consideration the fact, that during the great flood year the breaks in the levees have been so numerous and so large, that the volume of water discharged through them has been nearly equaled to the volume discharged over the banks in their natural condition, we have for the additional amount of sedimentary matter that will be carried to the Gulf, 81,000,000,-000 pounds, or about one-tenth of that transported to it before the construction of levees.

The vast mass of sediment is spread over the overflowed districts, and leaves a brownish red deposit upon the surface of the earth, which whilst improving the fertility of the soil, at the same time in virtue of its fine division, its chemical constitution, and the absence of organic matter, capable of undergoing fermentation and change, exerts no deleterious effects upon the health of the inhabitants.

It is possible, however, for overflows to occasion the prevalence of malarial and even of malignant fevers, from causes not necessarily dependent either upon the chemical composition of the water, or of the sediment held in suspension.

NOTES ON EARLY INVESTIGATIONS ON THE SEDIMENT OF THE MISSISSIPPI RIVER.

At the meeting of "The American Association for the Advancement of Science," held at Philadelphia, September, 1848, Dr. Dickeson read an extended report on "The Sediment of the Mississippi River," prepared by Andrew Brown, Esq., and Dr. M. W. Dickeson, from which we extract the following results:

The committee composed of Andrew Brown, Esq., and Dr. M. W. Dickeson, charged with the duty of collecting and reporting to the association as many of the facts and characteristics respecting the condition and annual conduces of the Mississippi River, as might be practicable, submitted a series of facts and observations in connection therewith, collected by virtue of the most favorable opportunities of daily observation for the last eighteen years, and continued without intermission with a view to this report, for the last two years of that term, beginning the first of July, 1846, and ending thirtieth of June, 1846, comprising a series of notations and calculations of the quantity of water

at the several stages of elevation and depression, during the river's annual oscillations, between its mean high water and low water lines, together with the quantity of detrital or sedimentary matter matter with which it is charged.

The committee found the aggregate annual quantity of water discharged by the Mississippi to be 14,882,360,639,880 cubic feet, or 551,235,579,143 cubic yards, equal to 101.1 cubic miles.

As the Mississippi River is the only visible outlet for the surplus water of the vast valley, through which it passes on its way to the ocean, and as the Mississippi Valley has been found to contain an area very little, if any, short of fourteen hundred thousand square miles, it is important to determine the relative difference between the quantity of rain water falling annually in this valley, and that discharged by the river.

The committee found by examination of the meteorological register of the late Dr. H. Tooley, of Natchez, that the mean quantity of rain water, which falls annually at Natchez, is between fifty-five and fifty-six inches; but, as such is the quantity for the Southern extremity of the valley, it may be regarded as over estimating, if taken for an average of the whole area, the mean quantity was, therefore, assumed to be fifty-two inches; upon which basis it was calculated that the entire rainfall of the whole valley was 169,128,960.060,000 cubic feet, which is almost 11.36 times the quantity which is discharged by the river.

There can be but two ways by which this immense quantity of water can make its escape from the valley; one is by the course of the river, and the other by evaporation. Hence there is but one relative portion of this quantity passing off by the river, for every 10⅝ parts which are exhaled into the atmosphere; or 8-91 parts are carried off by the river, and 83-91 parts by evaporation.

The result established an important fact to the planting interest (agriculturists) of Louisiana and Mississippi; for it will be perceived that the more exhalations are promoted, the less liable will the low or bottom lands of these two States be to the periodical inundations of the river. The best method of promoting the evaporating process, namely, the clearing of large portions of the valley of its forests for the promotion of agriculture, and the consequent exposure of the lands to the action of the sun and winds, has been in rapid and successful progress.

The committee affirm: "So rapid is the progress of this increased exposure, and its consequent evaporating tendency, and so visible have been its effects on the Mississippi River, that we may hazard the assertion with safety that there is not now by twenty or twenty-five per cent as much water passing down the Mississippi as there was twenty-five years ago, for at and prior to that time, there were annual inundations of many feet and long periods of submergence of almost all the bottom lands, from the bluffs or highlands on one side of the river bottom to those on the other side. Such lands were at that period in a great measure counted valueless; and to such a degree that but little or no hopes were entertained of the practicability of their redemption by any artificial means, that is on any general scale; but such has been the diminution in the annual quantity of water discharged from the valley, that these lands have been progressively and rapidly redeemed from overflow, until very great portions of them are now in the very highest state of cultivation, and with but comparatively slight assistance from art in the way of embankments, and then such as could not have been at all available against the overwhelming effects of floods, and the length of time of their continuance; for then there were annual inundations, both deep and expansive, of the waters, over almost all the bottom lands; but now the river seldom rises to the same elevation as formerly, and when it does, it is of much shorter duration, and the waters are almost exclusively confined to the channel of the river, in place of being spread over almost all the bottom lands the whole spring and early part of the summer."

From the same cause the quantity of floating timber and drift wood passing annually down the river has diminished in a far greater ratio than that of the water, and the aggregate quantity cannot now be even fifty per cent of that which formerly passed down.

It will not be difficult to perceive the yearly difference there must necessarily be in the evaporation from a surface of country exposed to such action, and that which is covered by the primitive forests and their almost impervious undergrowth, through which neither sun nor wind can penetrate but with difficulty.

With reference to the amount of suspended matters (sediment) contained in the Mississippi River, we found that there was deposited from a column of water 19.36 feet, a column of sediment or solid matters of 46½ inches. But as this sediment still seemed to evince some slight disposition to further settlement or contraction, the committee assumed forty-four inches to represent the solid sediment from a column of river water of 232.32 inches; the mean proportion or quantity of sediment to the whole volume of river water being, according to these data, as 1 ts 528. As according to the determination of Mr. Brown and Dr. Dickeson, the quantity of water annually discharged by the Mississippi River was 14,883,360,636,880 cubic feet, then must there be deposited from that quantity of water 28,188,053,893,1-6 cubic feet of solid matter. In this calculation

no account is taken of the coarse sand and gravel, transported by the river current, which forms numerous shifting bars, subject to perpetual change of position, and consequent tendency of the matter to the river mouth.

If, in common with Sir Charles Lyell, the delta of the Mississippi be regarded as comprehending all that great alluvial plain which lies below or to the south of what, until recently, was the first branching off or highest arm of the river, called Atchafalaya, its superficial area may be computed at 13,600 square miles. If, in deciding the depth of the deposit laid down in the delta by the Mississippi, we assume the calculation of Professor Riddell and say that it is of an average depth of one-fifth of a mile, or 1056 feet, which he infers from that being the average depth of the Gulf of Mexico, from the Balize to the point of Florida, by computation from the above data, it would require not less than 400,378,429,440,000 cubic feet, or 2720 cubic miles of solid matter to constitute this "delta." Having ascertained the quanttty of solid matter annually brought down to the Mississippi River, to be 28,188,083,892 cubic feet, which would be equal to one square mile of the depth of 1056 feet in 381 1-5 days, or one cubic mile in five years, eighty-one days, it therefore follows that it would require a series of 14,203 4-5 years for the river to effect the final formation of the present "delta."

"We are not disposed to consider the great alluvial plain, stretching with the river, from the above designated delta, as far up as Cape Girardeau, in Missouri, or any part of the delta proper, nor can it ever have been any continuation of the Gulf of Mexico, or arm of the ocean, as is usually supposed; the evidences are vastly against any such conclusions, inasmuch as to the diluvium which constitutes the highlands bordering on each side of this alluvial plain by its general distribution, would have been equally deposited in such gulf or arm of the sea, which, in reality, could not have been the case, for the river has excavated through this diluvium, and exposed it in many places, resting on what is evidently of another formation; and such is not only found to be the case at the base of the diluvial hills, but the same formation is found also to constitute the bed of the river at many other points, detatched for very considerable distances from any high lands. On reference to the reported diagram, right hand side, will be perceived that the position of the formation and base of the diluvial bluffs, which are in depth, to high water line, at this point, 179½ feet; and it will be seen that they extend almost as low as the bottom of the river, making their whole depth about 220 feet."

"There have been no excavations or perforations through the alluvial matter in any parts of this vast plain, excepting those which have been affected by the river itself; but it would seem that it does not exceed, in any part, the depth of the river, whose high water line may be regarded as the average level of the plain, and from that to the bottom of the river is about 117 feet. This bed of the river is of entirely different character from the composition of any part of the diluvial bluffs.

"In building a breakwater, your committee had occasion to quarry much of this substance, and found it to possess all the characteristics of a well formed rock, which has to be acted on by wedges, crowbars and pickaxes to effet its reduction, but on exposure to the weather it gradually pulverizes and becomes an adhesive blackish clay, but very different from the tenacious clay of the alluvium or diluvium.

"From the above observations, should they truly represent the character of the plain, the inference is irresistable, that the Mississippi river has excavated the whole of this valley, and denuded the upper tertiary of all its incumbent diluvium, from the high lands on one side to those on the other, of which every indication is confirmatory; and there are evident traces of the river having occupied every part of the bottom, for its ancient beds are found at intervals in the form of lakes and depressions throughout the whole extent of it.

"The superficial area of this great valley has been found to be about 16,000 square miles, bounded by high lands on either side, ranging from fifty to 350 feet above the level of the plain. Should this space, therefore, have been reduced or excavated by the river, as we assume, it must have transported the diluvial matter, and caused it to form part or portion of its delta. Now assuming the average height of the high land above the plains to be 150 feet, we will therefore obtain 454½ cubic miles, or 66,908,160,000,000 cubic feet of matter, as its proportional contribution, for the formation of the delta, the balance required being 333,451,269,440,000 cubic feet. to be derived from the reduction of other lands, the two sources being to each other as 1 to 5.98; or, by giving another expression to the same quantities, there is, in the delta, 2720 cubic miles of matter; 454½ of which would be derived from the diluvium on the excavation of this valley; the other portion would consist of 2265½ cubic miles to be derived from other sources or the reduction of other lands.

"We have now traced this great river through a period of 14.204 years, but how it was occupied before that time, or what was the condition of the country over which its waters passed, is more than we can safely venture to say; but on particular examination of the bluffs, or cliffs, which bound its present plain, it will be very difficult to resist the conviction, that the river has had great agency in depositing the upper or loamy stratum which varies from a few feet to upwards of fifty feet in thickness, and in all of which

stratum there is abundance of land and fluvatile shells, such as those now found in the deposit from the river. On receding from the river bluffs, we find that the clay, or other diluvial matter, which underlies the loam-bed on the top of the bluffs, crops out, very clearly indicating an ancient valley, or depression in the diluvium, which constituted the more primitive bed of the river, on whose sloping flanks, and more particularly, in their depressions, this fluvatile matter or ancient alluvium, was deposited.

"Any variation of its character, from that which is now deposited, may be very readily accounted for by the varying conditions of the ground over which the waters have had to pass, for it may safely be inferred that they then had to make their way over the face of a country being different in character from the present; for they have gone on, progressing, to abrade the high lands of their lighter matter, and to cut deep channels in the valleys down through the more primitive rocks, whose detrital matter must necessarily assume a somewhat different character from that which it formerly had, particularly that on the top of the bluffs. We have found the age of that deposit to be not less than 14,204 years, through all of which time the waters have been actively engaged in changing the face of the country, and transporting 2720 cubic miles of its matter to a far distant location. * * *

"Having early perceived that this report would exhibit a series of results varying very much from that obtained by Proffessor Riddell on the same subject, and reported to this association in 1846, we have on that account been the more careful that accuracy should attend all our proceedings with reference to it.

"By this report, the mean annual discharge of water in the Mississippi is 14,883,360,-636,880 cubic feet; the Riddell report gives 11,108,275,000,000 cubic feet. The difference may be accounted for by the greater uncertainty there must be in obtaining any correct mean where conditions and velocities are so changeable; at least, there cannot certainly be the same dependence placed in quantities got by such a method as there may be in that more mathematical one adopted by this report. But the difference in the two estimates, with respect to the solid matter held in suspension by the waters, may well seem the most extraordinary that can be conceived in any two estimates for the same thing. This report gives to the solid matter, in bulk, as compared with the bulk of water, as 1 to 528; the Riddell report gives it as 1 to 3000. Why there should be anything like this difference may seem difficult to determine, and is well calculated to abate the confidence to which either report may be entitled.

"Agreeable to the Riddell report, it would require a column of water 250 feet in height to deposit one inch of sediment. Were that so, it would have required that our tin tube should have been filled 1750 times in order to have produced the quantity of sediment herewith submitted; in which case we would have contented ourselves with obtaining a much smaller quantity. According to this report, there is one inch of solid matter deposited from a column of water of forty-four feet. Every one who has traveled on the Mississippi, and seen the turbid condition of its waters, will be able to decide between these two reported quantities.

"We will here remark, so as to account for the discrepancy, that if the waters of this river are not continually agitated by the force and turbulence of the current, the suspended sediment very soon subsides considerable below the surface; and at or opposite the Mint, in New Orleans, is below almost all the wharves, and most of the shipping. When the waters are very still, and when deposition takes place to a very great extent, so as to make much land, after the water has so parted with a portion of its sediment, it passes down past the Mint without being but slightly agitated, the principal current being altogether on the other side of the river, and but very little on that side when Professor Riddell procured the test water for his experiments, according to his own statement. * * *

"In a large excavation made for the gasworks, at New Orleans, eighteen feet deep, there were found imbedded innumerable stumps of trees, buried at various levels, in an erect position, with their roots attached, implying the former existence there of fresh water swamps, covered with trees, over which the sediment of the Mississippi River had been spread during inundations. The site of the excavation is only nine feet above the level of the sea; therefore, the lowest of the embedded stumps must be nine feet below this level. Now, this must not be at all surprising, when we reflect that the first growth of trees in this region must have taken root on the surface of new-made ground. deposited from the Mississippi, and that ground, or deposit, of the depth of 1050 feet, with a continual tendency to settle into a more compact condition by incumbent pressure, molecular affinity and arrangement of particles, as we found it to be the case with the settling of our sediment. Every year's sinking down, in this case, would be fully compensated by every year's deposit. for the lower it at any time sunk the longer it would be subject to inundation by the subsequent overflows, so that the sinking and compensatory process would go on together, and continue about equal, which will account for the circumstances of former forests being now found so far below the level of the sea.

"Should this subsidiary process be now, in any measure, incomplete in that region where the city of New Orleans now stands, and which we indeed very much question, in

that case, the compensatory equivalent being cut off by embankments, or the levying out of the waters, the time may, possibility, yet come, when the ground on which the city of New Orleans now stands, may sink to a level with the ocean, or even below it; at least, should there be any further settlement at all, it must, in the same rate approximate that level, for the final adjustment of particles in a deposit of 1056 feet deep, that may preclude any further settling, may be expected to take an immensity of time."

"ANDREW BROWN,
"M. W. DICKESON, Committee."

TABLE OF THE CALCULATIONS MADE IN THE FOREGOING REPORT.

1. Quantity of water discharged by the Mississippi River, annually, 14,883,360,636,880 cubic feet.
2. Quantity of sediment discharged by the Mississippi River, annually, 28,188,083,892 cubic feet.
3. Area of the delta of the Mississippi, according to Mr. Lyell, 13,600 square miles.
4. Depth of the delta, according to Professor Riddell, 1056 feet.
5. The delta, therefore, according to 3 and 4 contains 400,378,429,440,000 cubic feet, or 2720 cubic miles.
6. According to 2, it would require for the formation of one cubic mile of delta, 5 years and 81 days.
7. For the formation of one square mile of the depth of 1056 feet, 1 year, 16 1-5 days.
8. For the formation of the delta, according to 2, 3, 4, 14,203, 4-5 years.
9. The valley of the Mississippi, from Cape Girardeau to the delta, is estimated to contain1 6,000 square miles, 150 feet deep; it, therefore contains 66,908,160,000,000 cubic feet, or 454½ cubic miles.—*Proceedings of the American Association for the Advancement of Sciences, May* 1848, *pp.* 42-55.

SEDIMENT OF THE MISSISSIPPI RIVER.

At a meeting of the American Association for the Advancement of Science in 1847, a committee was appointed to report as to the practicability of reclaiming the drowned lands of the Missisippi Valley, and also as to the probable effect which the reclaiming of these lands would have on the navigation of the river. As those subjects were of vast national importance, Lieutenant Maury addressed a letter to Hon. J. Y. Mason, Secretary of the Navy, Washington, dated National Observatory, Washington, December 27, 1845, with a view of aiding the committee in its investigations, and requesting that the officers of the Memphis Navy Yard, be directed to conduct a series of observations, with a view to obtain answers to the following questions:

1. What is the average quantity of water taken up at Memphis by evaporation?
2. What is the average volume of river water that daily passes by that place?
3. What is the quantity of silt contained in the water?
4. What is the daily rise and fall of the river?
5. What, at the different stages of the river, is the rate of the current at the surface, and successively at the depth of every ten feet?
6. What the daily temperature of the water at the surface, and what the bottom of the main channel-way?
7. And if not already the subject of observation, what is the quantity of rain that falls there?

The Hon. J. Y. Mason, Secretary of the Navy, Washington, promptly complied with the request of Lieutenant Maury, and the report of Robert A. Marr, Esq., of the United States Navy, was submitted to the American Association for the Advancement of Science, at their second meeting, held at Cambridge, August, 1849.—*Proceedings of Association for the Advancement of Science, second meeting; held at Cambridge, August,* 1848, *pp.* 334-435.

From the report of observations made at the Navy Yard at Memphis during the months of April, May, June and a part of July, 1849, by Robert A. Marr, United States Navy, we extract the following:

Evaporation—The average quantity of water evaporated was 13-100ths of an inch daily.

Rain—The average quantity of rain falling was 11-100ths of an inch daily. The weather was thought to be unusually wet.

Quantity of Water passing Memphis—The average quantity of water passing during the observation was daily 57,165,356,160 cubic feet. "The river for the last few months has been unusually high, but considering this quantity as an average, the water passing by in one year would amount to 20,865,354,998,400 cubic feet, a quantity sufficient to cover an area of 100,000 square miles to the depth of 7½ feet."

Currents—Mr. Robert Marr found the velocity of the current near the bottom to be to that of the surface as 268 to 300. I believe that very near the bottom it is much less. It appears that the greatest velocity of current obtains when the river is rising most rapidly, and that the rapidity of the current at high water is to that at its lowest stage during the time of these observations, about 33 to 28.

It is impossible to observe the current of this river, and notice its effects upon the banks, without being strongly impressed with the vital importance which the serpentine course of this river (at which travelers so inconsiderately complain) is to its navigability. The winding course of this river, by diminishing the ratio of its fall to its length, greatly lessens the velocity of current; but the greatest restraint upon the fury of this current arises from the abrupt turns in the channel, which, by forcing the stream from a right course, constitutes a series of checks, without which this river would wash in with such impetuous violence as to render its navigation utterly impracticable.

Temperature of the Water at the Bottom of the River.—"I have found the temperature of the water at the bottom of the river to be the same as that at the surface; at least, the difference is not observable with the ordinary thermometer. * * * This equality of temperature is attributed to two causes: One is, that the sun does not in so short a time affect the water *immediately* beneath the surface to a degree observable with the common thermometer. This latter fact is evident, because whenever I have tried the experiment, I have found the river water as warm at midnight as at noon. Another cause may be that the bottom and surface water, owing to the greater agitation of the current, frequently change positions. The water is generally affected by the temperature of the air, but the effect is very gradual.

"The fact that the temperature of this river is so little affected by the casual and local variations of temperature of the atmosphere, suggests the idea that it may be regarded as the mean result of innumerable observations, taken in every portion of the country through which the river flows; and that if the temperature of all the large rivers and other large bodies of water should be carefully noted and combined, the result would indicate the average temperature of the whole country. If such observations were continued for years, they would show whether the spring of any particular year was backward or in advance.

"*Velocity of Current as Influenced by Stage of Water.*—The lowest stage of the river, since these observations were commenced, has been 20.2 feet above low water. At that point the average velocity of the central surface current was 2¾ miles per hour; at the height of 33.6 feet it was 3¾. When the river is at 33.6 feet above low water, there is about one-half more water in the river than when at 20.2 feet. Now, I think it may be safely assumed that if all the overflow was confined to the river, the height of the river would not be increased more than fifteen feet, and this increase (reasoning from the above data), would not give a greater velocity of current than five miles.

"*Silt.*—The quantity of silt has been ascertained by daily placing a known quantity of river water in a box, drawing off the water as it becomes clear, and weighing (when dried) the earth thus deposited. The average quantity of earth contained in one hundred cubic feet of river water is twelve and seven-tenths pounds, which gives 26,580,008-400 pounds, or 2,137,061,974 cubic feet of earth passing in one year—a quantity sufficient to make a bed of earth one mile square and seventy-six feet deep.

"(Signed) ROBERT A. MARR,
"Acting Master, U. S. N."

PREVIOUS TO THE ERECTION OF LEVEES, THE DELTA OF THE MISSISSIPPI WAS ANNUALLY OVERFLOWED.

The city of New Orleans was laid out in 1717, by Engineer Dumont de la Tour, on the left bank and in the concave bend of the Mississippi river, which approaches nearest to the Lake Ponchartrain, about five miles distant. The flood line of the river at that time was determined to be about three feet above the natural river bend, and de la Tour ordered a front levee to be constructed for the protection of the future city, four feet high, eight feet wide at top, and 5,400 feet long. In the rear on the present line of Rampart street, a levee six feet high was ordered, at the sides above and below, levees gradually increasing from four to six feet. These levees were constituted lines of fortification as well, and were provided with stockades and ditches, bastions at the rear angles, and forts in front. They were not completed till 1726, and they were the first levees constructed in the valley of the Mississippi.

The place d'Armes, now known as Jackson Square, and the Cathedral and public buildings were located opposite the middle of the river front. No perceptible change has occurred in the position of the river bank opposite the lower side of the public square, either by accretion or caving since

1717. Above, an extensive batture has been formed, below there has been very little if any change for some distance. On the opposite or right bank of the river, a little further down, where the Bellville foundry now stands, the river bank has also remained stationary since 1717.

Before the era of levees, the points opposed to the river were kept, by deposits, nearly up to the highest flood line, while the bends, or natural banks around the bends, were generally from two to three feet or more below the flood line. Consequently, as the water flowed out over the banks in the bends, outlet channels existed in every bend.

Soon after the settlement of New Orleans, plantations were established along the river bank above and below the city. Every proprietor had to construct and maintain his own levee, but as the river deposits had kept the natural banks nearly up to the flood line, small levees answered the purpose.

In 1723, there were small settlements in Ponte Coupée at Baton Rouge, near Bayou Manchac, below Bayou Lafourche, at Cannes Brulées, and at Tchoupitoulas. In 1728 the settlements extended for thirty miles above New Orleans, almost continuously. In 1735 the levees extended from English bend twelve miles below, to thirty miles above, and on both sides of the river. In 1742, an ordinance was promulgated requiring the inhabitants to complete the levees by January 1, 1744, under penalty of forfeiture of their lands to the crown. In 1752, the settlements were nearly continuous for thirty miles below and thirty miles above New Orleans, and nearly the whole coast was in a high state of cultivation and securely protected from floods. In 1763, France ceded Louisiana to Spain and the policy of the latter government was not such as to foster the growth of the Colony, and but little progress was made in levee construction until after the cession of Louisiana to the United States in 1803, by France; it having been ceded back to France by Spain in 1800.

In 1812 when Louisiana was admitted into the Federal Union, levees extended from the lowest settlements at Pointe Coupée on one side, and to the neighborhood of Baton Rouge on the other, except where the country remained unoccupied.

In 1828 the levees were continuous from New Orleans nearly to Red River Landing, excepting above Baton Rouge, on the left bank, where the bluffs rendered them unnecessary. In 1844 the levees had been made nearly continuous from New Orleans to Napoleon, Arkansas, on the right bank, and many isolated levees existed along the lower part of the Yazoo front. Above Napoleon few or none had been attempted. Between the year 1850 and 1860, the levees of the right bank, from Cape Girardeau down to the mouth of the Arkansas River, were built piecemeal, but finally were nearly continuous, leaving intervals of less than forty miles, in the aggregate, when the war of 1862 ended all improvements.

The process of levee construction began at New Orleans in about the year 1720, and it progressed gradually downwards for about seventy miles and upwards nearly one thousand miles during one hundred and fifty years.

FLOODS OF THE MISSISSIPPI.

In 1718, the year after the selection of the site of the city of New Orleans, there was an extraordinary rise of the Mississippi, which greatly discouraged the new settlers. A great flood occurred in 1735, which inundated the city. The flood of 1735 was continuous for an unusual length of time, from late in December to late in June, and the succeeding low

water was remarkably low, giving a range from high to low water at New Orleans of fifteen feet, or about the same as to the highest flood lines of recent years, as in 1862, which was fourteen feet eight inches. The records of the flood years from 1735 to 1770 are wanting, but in the latter year a great flood occurred, with its usual inundations. In 1782 there was a flood which it was said exceeded any remembered by the oldest inhabitants. Great floods occurred in 1785, 1796 and 1799, and during each of these years New Orleans was inundated.

The years 1869, 1811, 1813, 1815, 1816, 1823, 1824, 1828, 1840, 1849, 1850, 1851, 1858 and 1859 were marked as flood years. In 1865, 1867, 1874 and 1882 extensive inundations occurred.

In 1862 the flood-line was everywhere below Cairo remarkably high, but although several crevasses occurred below Red River, their capacity was insufficient to cause any general inundation of the valley west of the Mississippi, and south of Red River.

The noted overflow of 1816 commenced on the sixth of May, and subsided in twenty-five days. The suburbs and rear portions of the city were submerged from three to five feet. One could travel in a skiff from the corner of Chartres and Canal streets to Dauphine, down Dauphine to Bienville, down Bienville to Burgundy, thus to St. Louis streeet, and from St. Louis to Rampart and throughout the rear suburbs. No increase of disease was referred to that overflow.

In 1831 the waters of an inundation reached the line of Dauphine street —the fifth from the river front—the result of a violent storm in Lake Pontchartrain. A similar event occurred in 1837. In 1844 a storm backed the Lake waters up to Burgundy street, sixth from the river front, and the same disaster happened again in 1846. The overflow of 1849, following the Sauvé crevasse, of the third of May, has been regarded as the most serious overflow with which New Orleans has ever suffered.

The water reached its highest stage on the thirtieth of May. The line of the flood ran along Bacchus (Baronne) street, sometimes reached to Carondelet, from the upper limits of Lafayette to Canal street, covered that street, between Carondelet and St. Charles street, and thence to the Old Basin. About 220 inhabited squares were flooded, more than 2000 tenements surrounded by water, etc., a population of 12,000 souls either driven from their homes or leading a life of privation and suffering.

The last inundation of the city, on the east bank, was in 1881.

RELATIONS OF OVERFLOWS TO DISEASE AND DEATHS.

We have but scanty and imperfect data concerning the floods and their effects upon the health of the inhabitants of Louisiana during the eighteenth century, when the province was under the French and Spanish crowns, and the inquiry is necessarily limited to the nineteenth century.

In estimating the effects of overflows upon the health of the people, it would be manifestly more accurate to consider the mortality not merely of the year in which the flood occurred, but of the succeeding year.

No data, with the exception of that furnished by the United States census at interims of ten years, exists with reference to the mortality in the various parishes of this State; and hence it is impossible to estimate the effects of overflows upon the health of the inhabtants of Louisiana.

In 1813, when the city was inundated by a crevasse in the levee of Kenner's plantation, about two miles above Carrollton, the death rate per 1000 inhabitants was 46.45, and in the following year, 1814, 43.39.

In 1816, when a large portion of the city of New Orleans was inundated for twenty-five days, during May and June, the mortality was remarkably small, reaching only 27.93 per 1000 inhabitants; but in the following year, 1817, yellow fever invaded the city, and the mortality rose to 73.27 per 1000 inhabitants.

In 1831, when a large portion of the city was again inundated, the mortality was 36.71, and in 1832, when the city was desolated by cholera and yellow fever, the death rate rose to the extraordinary rate of 147.01 per 1000 inhabitants.

1837, death-rate per 1000 inhabitants, 70.45; yellow fever destroyed 1300 citizens; 1838, death-rate, 36.77; 1844, death-rate, 53,33; 1845, death-rate, 31.17; 1846, death-rate, 41.34; 1847, death-rate, 83.19; 1849, death-rate, 80.48; 1850, death-rate, 60.26; 1867, death-rate, 55.67; 1868, death-rate, 28.96; 1874, death-rate, 35.71; 1875, death-rate, 32.05.

The mortality of 1881 does not appear to have been materially influenced by the overflow of the lower portions of the city by the lake waters, the death rate being 29.64 per 1000 inhabitants; it is worthy of note, however, that the mortality of 1881 exceed that of 1880 by 783; that of 1879 by 1284, whilst it was 302 less than that of 1877.

From the preceding facts, the following conclusions may be drawn:

1. No connection has been established between overflows and epidemics of yellow fever or Asiatic cholera.

2. In the history of New Orleans inundations have often been accompanied by, and followed by a high death-rate, whilst on the other hand, years may be selected in which no appreciable effect upon the rate of mortality has been observed.

PROBABLE EFFECT OF THE OVERFLOW OF 1882 UPON THE HEALTH OF THE CITIZENS OF NEW ORLEANS ON THE RIGHT BANK OF THE RIVER.

This question is of serious importance to near 10,000 citizens inhabiting the Fifth District and the Parish of Jefferson. According to the census of 1880, the fifteenth ward alone contained 8856 inhabitants, and this does not embrace the entire series of settlements immediately in front of the ancient city of New Orleans. The population of the righ bank has also augmented rapidly during the past two years, on account of the increase of manufacturing, marine and railroad enterprises and the increased facilities afforded to shippers.

The people are now confronted with a large mass of stagnant water, which in the lower portions of the chains of town, known as Algiers, Freetown (Gouldsborro), McDonoghville, Tunisburg and Gretna, has invaded their yards, and even their houses.

Under the burning rays of the sun, the water which we have shown, by chemical analysis, is *per se* and in the fresh state pure and innocuous, now receives the drainage and a considerable portion of the offal of the habitations of ten thousand people.

The lower forms of vegetable and animal life, fungi, aquatic plants of various genera and species, animalculæ, frogs, serpents and fish, are multiplying with great rapidity. Upon personal inspection I was informed that it was by no means uncommon to find reptiles of various kinds, as water mocassins, water-snakes and even rattle-snakes, under the houses and in the gardens. The nights are rendered hideous by the croaking of the frogs. Were it possible to maintain this mass of animal and vegtable life in a state of healthy activity, and to keep up continuous supplies of fresh

water, the damages from the overflow to health and life would be diminished. It is evident, however, that if this water should subside during the hot months of June, July, August, September and October, the 10,000 citizens residing on the right bank of the Mississippi will be subjected to a terrible ordeal from the intolerable stench and the mephitic vapors arising from the putrefying vegetable and animal remains.

The hæmorrhagic malarial fever of 1880, which prevailed in the parish of Plaquemines, and more especially in and around Pointe Michel and Pointe à la Hache, was thought by local practitioners to have been aggravated, if not engendered, by the putrifaction of numerous small fish in the rice-fields after the water was drawn off. The history of medicine is not without numerous examples of the development of malignant malarial and hæmorrhagic and typhoid fevers consequent upon the exposure of the surfaces of marshes and ponds, and the consequent putrefaction of animal and vegtable matter.

THE REMEDY.

When the waters begin to recede from the low portions of the towns on the left bank of the Mississippi River, the Board of Health should be prepared to render the inhabitants prompt assistance with the necessary disinfectants.

Liberal supplies of quicklime, for covering the newly exposed earth, and of copperas and cloride of lime, for drains, privies, etc., should be supplied.

The steam engines might be used to wash out the foul gutters and yards with streams of fresh Mississippi water.

As a prophylactic, the citizens would do well to take from two to five grains of quinine, in black coffee, upon rising in the morning.

I would respectfully suggest that the Committee on Drainage and Sewage be empowered to solicit aid from the citizens for the purchase of the necessary disinfectants, and for the alleviation of the condition of our overflowed and unfortunate fellow-citizens on the right bank of the Mississippi River, who, by the accidents of war and the Reconstruction Acts, have been annexed to the ancient municipalities, and have been compelled to share their burdens of taxation.

This overflow has added another warning to the citizens of New Orleans as to the permanent necessity of protecting all inhabitable portions of both banks by substantial levees, elevated at least six feet above the highest flood-line. The inclosed areas should be kept thoroughly drained at all times by the best and most approved forms of pumps and draining machines.

The first and highest duty of the City Administration is to protect the inhabitants from overflow, and thus prevent the increasing deterioration of property and the destruction of the lives of the people by these disastrous occurrences.

The people who pay the taxes have a right to demand that the money should be devoted to the protection of their property and the preservation of their health and lives.

During the subsidence of the waters, heavy rains fell at intervals and inspections at intervals rendered it evident that the injurious effects of the overflow was greatly mitigated by the cleaning of surface by the falling waters.

Many cases of malarial fever were caused here and elsewhere in the overflowed districts; and during the autumn and winter of 1882, I treated a large number of malarial fever patients in the wards of the Charity Hospital.

Many of these cases were marked by yellow greenish swollen bloated countenances; extreme anaemias; general anasarca; ascites; hepatic derangements; splenetic enlargement; and renal troubles with albumenuria.

Albumen was found in the urine of the accute cases as well as in a certain proportion of those suffering from chronic poisoning by malaria.

WATER SUPPLY OF NEW ORLEANS.

[Extract from the Report of Joseph Jones, M. D., President of the Board of Health of the State of Louisiana, on the waters of the Bogue Falaya, Tangipahoa and Mississippi Rivers].

[Correspondence].

NEW ORLEANS, June 10, 1882.

Dr. Joseph Jones, President Board of Health, New Orleans, La.:

My Dear Sir—I send you herewith a bottle of water sent by Judge Thompson, from the Bogue Falaya.

Will you do me the favor to furnish an analysis of this water, in conjunction with the report of Board of Health upon the advantages of an ample supply of clear pure water, etc.

Yours, truly, D. B. PENN.

I send resolutions of Chamber of Commerce.

BOARD OF HEALTH, STATE OF LOUISIANA,
New Orleans, June 13, 1882.

Honorable D. B. Penn, President of the St. Tammany Waterworks Company, New Orleans, La.:

Dear Sir—I have the honor to acknowledge receipt of your letter of the tenth instant, conveying the request that I should furnish an analysis of samples of water sent by Judge Thompson, from the Bogue Falaya River, and respectfully submit the following as the result of the examination. * * *

[As the analysis of this water did not differ materially from that of the sample subsequently furnished by the commission appointed by the Honorable Common Council, the report is omitted].

In conclusion, allow me to say that in accordance with your request, I shall take pleasure in bringing this subject to the notice of the Board of Health at the next regular meeting; but in the mean time, I shall call the attention of tho Conference Committee to your enterprise; and it will thus be in your power, at any time, to consult with this committee, through its chairman, Colonel A. W. Bosworth.

The Conference Committee of the Board of Health is thus constituted: Colonel A. W. Bosworth, (residence, 152 Washington street; office 22 Natchez street); Colonel I. N. Marks, residence, 163 Annunciation street; office, 33 Camp street); J. C. Faget, D. M. P., (residence and office, 281 North Rampart); Honorable Ed. Booth, (residence, 505 Magazine street; office, corner Gravier and Magazine streets); Dr. George K. Pratt, residence, 215 Camp street); office, corner of Carondelet and St. Charles streets).

Respectfully, your obedient servant,
JOSEPH JONES, M. D.

REPORT OF CONFERENCE COMMITTEE OF BOARD OF HEALTH, STATE OF LOUISIANA.

NEW ORLEANS, June 22, 1882.

To the President and Members of the Board of Health.

Your conference committee, to whom was referred the chemical analysis and papers concerning the properties of the water proposed to be furnished by the St. Tammany Water-works Company, having carefully considered the same, have come to the unanimous conclusion that a full supply of

such water, in manner and to extent and at rates contemplated, will be one of the greatest blessings this city has ever received. The scientific examination and analysis to which this water has been subjected by the President of this Board, whose report has been submitted to the committee, establishes confidence in these waters for the highest domestic uses, potable, culinary and lavatory. If the company can overcome the engineering and financial obstacles, and furnish to New Orleans, as they propose, the pure streams filtered through the orange sand formation described by Professor Jones in his analysis, they will have done for our city what ancient builders did for Babylon, Carthage and Rome, and moderns have endeavored for Boston, New York and Philadelphia.

Viewed from a hygienic standpoint, we would not be understood as diminishing the just appreciation in which is held the ever-flowing, ever-free, fresh and superabundant waters of our Mississippi River, so valuable for so many purposes, but it has been long evident that there was, and is, needed a relief from the monopoly which our wooden, above-ground cisterns have enjoyod as our only resources of supply of clear, soft water for domestic use. It would be quite unnecessary to state, much less to argue, the detailed points involved in the above proposition, as against cisterns.

Our present business is with the pure crystal floods awaiting us in Bogue Falaya, and to them we bid a hearty welcome, and say come, and come soon. The sooner, and the more the better; therefore, be it

Resolved, by the Board of Health of the State of Louisiana that, guided by the chemical analysis made by Professor Joseph Jones of water proposed to be introduced to New Orleans by the St. Tammany Waterworks Company, this Board approves of the enterprise warmly, from a health point of view, and expresses the hope that the Legislature and City Council will give the necessary powers and facilities, by all proper and legal methods for the success of so valuable and important an undertaking.

For the Conference Committee.

[Signed] A. W. BOSWORTH, Chairman.

THE BOGUE FALAYA—ENGINEER'S REPORT ON THE WATER SUPPLY—ENOUGH PURE SOFT WATER FOR 1,000,000 PEOPLE—CONSULTING ENGINEER COOK'S VIEWS.

Below we present a part of the report of the consulting engineer, made to the St Tammany Waterworks Company:

In regard to the quality and quantity of water of the Bogue Falaya River, we have the following certificate of Mr. John Roy.

"This is to certify that I have visited and inspected the proposed sight for forming a basin on the Big Bogue Falaya River, St. Tammany parish, in connection with a project for supplying the city of New Orleans with water, and found the same very advantageously situated for the purpose intended. The natural advantages are very great, leaving little for art to do to form a basin, ample, secure, and easily maintained. I also measured the flow of water and found it to be forty-nine millions wine gallons in twenty-four hours. This was in the month of September and a dry time.

"JOHN ROY, Architect and Engineer."

Mr. J. D. Cook, consulting engineer, of Toledo, Ohio, makes the following report:

Dear Sir—Knowing that your Water Supply Association are greatly anxious to know something as to the result of my investigation, and having been unexpectedly delayed in making such a report as I intended, and as the great importance of the enterprise amply merits, I send you this preliminary communication, which is intended to correctly set forth the more important characterists of the project, together with its estimated cost; and in the event that your further deliberations shall culminate in a permanent organization, having for its object the actual construction of the works, I will at an early day prepare a more elaborate report, accompanied with such maps and drawings as may be necessary to represent in detail what I now merely give in aggregate.

The first, and indeed most important factor in the investigation, is as to an eligible source of supply of water sufficient in purity and quantity to meet the present and prospective demands of your city.

In this connection, I deem it needless, in view of the thoroughly intelligent and appreciative readers whom I have the honor to address, to more than merely advert to your great prospective growth and increased municipal importance, so easily foreseen as a resultant of the many new and important railroads which are being added to your former great facilities for transportation, or to your greatest of all rivers, which practically drains a continent and renders you easily accessible to the navigable waters of the world.

In fact, with such an array and magnitude of natural and acquired facilities, your present population becomes the minimum factor in the comparison with other and even less naturally favored cities throughout the world.

In other words owing to the intervention of several well.known and avoidable impediments, New Orleans, although taking respectable rank among the more important municipalities of the country, is nevertheless vastly below its legitimate prestige as a leading commercial city of North America.

Guided by these reflections and the logical conclusions which they suggest, I should consider it demonstrably unwise in me to reccommend, or you to adopt, a system of water supply merely adequate to your present needs ; and although somewhat abbreviated in detail, the accompanying estimates and general description are intended to correctly reflect a design which will be found commensurate with the augmented municipal importance to which you are inevitably and speedily tending. In this connection, the proposition can scarcely be considered debatable that a copious supply of water of almost unparalleled purity, delivered throughout the entire city, would be found directly and almost immeasurably instrumental in advancing your beautiful city to its legitimate standard of population, wealth and sanitary conditions.

Here, again, you are manifestly fortunate beyond ordinary comparison. The territory north of Lake Pontchartrain, generally bounded on the west by the valley of the Tangipahoa and on the east by Bogue Chitto, extending beyond the northern boundary line of the State, and comprising a drainage area of more than two thousand square miles, is traversed by numerous navigable and living streams of proverbially clear, soft water. In my judgment, the territory drained by the Bogue Falaya and tributaries would furnish you an ample supply for many years to come, or until your consumption shall exceed 75,000,000 to 80,000,000 gallons per twenty-four hours.

Its present drainage area may be taken at 200 square miles, which can, when desired, be enlarged to any needed extent by drawing from the watersheds of the Bogue Chitto, the Tchefuncta, the Chappapulla, etc.

The area drained by Croton River supplying New York is taken at 300 square miles, with a minimum rainfall of 35 inches, maximum 63 and mean 43 inches. Taking that of Bogue Falaya at 200 square miles, minimum rainfall 42 inches, maximum 67 and mean 51, would give an average supply per annum of 176,639,543,000 gallons ; deducting for loss by evaporation and other sources 85 per cent. which is considerably larger than is usually found necessary in actual practice, and taking the remaining 15 per cent. as available, would give an annual supply of 35,327,452,600 gallons, or 96.786,550 gallons per twenty-four hours, or 73,000,000 gallons water per day, on a basis of least recorded rainfall.

In this instance the frequently troublous question of present purity or probable future pollution from dense population and dangerous manufactories are scarcely worthy of passing thought. With a watershed containing less than four persons to the square mile ; with almost absolute freedom from stagnant pools or miasmatic swamps ; with a salubrious and even healthful climate, due to pure air and pure water, your immunity from solicitude in this regard, in contradiction to the experience of most other large cities, would be practically absolute and perpetual.

The intervening distance, composed of land and water, which separates the city from this region, while tending somewhat to the complication of the problem and adding to its cost, should, therefore, not be regarded in the single light of a misfortune. With nearer proximity and no intervening obstacle to expanding settlement would come the usual source of pollution, involved from increasing population around and contiguous to the sources of water supply so common to the history of other cities. Unlike many of them, you would never be subjected to the expensive necessity of revisions, reconstructions, etc., incident to seeking a source of greater safety.

OFFICE BOARD OF HEALTH, STATE OF LOUISIANA,
New Orleans, August 7, 1882.

His Honor, Joseph A. Shakspeare, Mayor City of New Orleans :

Dear Sir—I have the honor to acknowledge the following :

MAYORALTY OF NEW ORLEANS,
New Orleans, La., Aug., 1, 1882.

Joseph Jones, M D., President Board of Health, New Orleans, La. :

Sir—His honor the Mayor requests you to analyse the water herewith sent at the earliest convenience and make report to him of the result of said analysis.

The water sent is that taken by the committee appointed by the Council from the Bogue Falaya, to be tested for its purity for drinking purposes.

By direction of the Mayor,
E. L. BOWER, Chief Clerk.

OFFICE NEW ORLEANS WATERWORKS COMPANY,
Corner St. Charles and Perdido Streets,
New Orleans, August 3, 1882.

Dr. Joseph Jones.

Dear Sir—In making analysis of the water sent to you, we would be obliged, if in your report, you would make a comparison with the waters of the Mississippi and our rain water, in such manner as to show their relative merits, for the health of our inhabitants. Yours respectfully,
JOS. A. SHAKSPEARE, Mayor.

On the second of August I received samples of the soil and waters of the "Bogue Falaya" basin and river, and in accordance with the request of your honor, present the following statement of the general results of the investigation :

1. *Physical, Chemical and Microscopical Properties of soil from the basin and banks of the Bogue Falaya river.*

(*a*) *Surface Earth.*—This sample embraced the surface soil with grass growing upon it, and extended to the depth of about 3½ inches.

Surface of a dark gray, inclining to dark blackish brown; this color gradually shaded into grayish yellow earth, the darker coloring of the surface was due to small quantities of carbonized organic matter.

Under the microscope the soil was found to consist of minute particles of silex and silicates, with slight evidence of organic matter.

When moistened with water, the soil formed a soft yielding mass, with but little cohesion, and was entirely different in its physical properties, from the thick tenacious clay of the Mississippi Valley, and more especially of the Delta.

The porous sandy nature of this soil, as well as the absence of organic matters and lime salts, and those of the alkalie and alkaline earths, establish the view that this soil should be regarded as unsuited to the purposes of agriculture, unless highly enriched by manure. This soil appears to be incapable of sustaining vegetation to any extent, and seems adapted only to the growth of the pine, and to the stunted forms of the more hardy grasses and plants.

The mineral acids exerted little or no appreciable effect upon this silicious soil, and the solution thus obtained yielded only a mere trace of lime.

The surface soil of the Bogue Falaya River, is thus shown to be silicious in its constitution, to a certain extent porous, and to be devoid of deleterious organic and mineral constituents, and to be incapable of impairing the quality of the water collected from the basin or water shed.

SAND FROM THE WATER LEVEL, TWENTY-FIVE FEET BELOW THE SURFACE OF THE PLATEAU, LIGHT CREAM COLORED, DRY FINE SAND.

Under the microscope this sand was found to consist of numerous transparent and colored crystals of silicious acid and silicates.

The greatest portion of the sand consisted of transparent crystalline particles of silicic acid, varying in diameter from 1-50 to 1-100 of an inch in diameter. I discovered with the microscope no organic remains, vegitable or animal, recent or fossil in this sand.

Concentrated chemically pure nitric and hydrochloric acids, appeared to produce no perceptable or recognizable effect upon the sand.

(c) Sample, of soil taken from beneath the surface, at various depths ; two feet below the surface ; eight feet below the surface ; twelve feet below the surface ; water level twenty-five feet below the surface of Plateau.

After careful microscopical and chemical examination, these specimens were found to present essentially the same characteristics, and resemble closely the soil, differing chiefly in the degree of cohesion of the particles and density and solidity of the strata.

Under the microscope all the specimens presented the same general characters, namely—collections of fine silicious particles ranging from 1-100 to 1-500 of an inch in diameter.

This deposit, although presenting some of the appearances and properties of a light-colored clay, more nearly resembled a soft, incoherent sand rock, composed chiefly of minute particles of silex and silicates; and the entire formation is more porous than the ordinary clays of South Carolina, Alabama, Mississippi and Tennessee.

The concentrated nitric and muriatic acids caused no effervescence with any of these specimens, and exerted little effect, only traces of lime being obtained from the filtrates.

As the entire thickness of the stratum (twenty-five feet), was of a porous, silicious nature, devoid of soluble salts of lime and also of organic remains, recent and fossil, it forms a natural filter for the rain-water falling upon the water-shed of the Bogue Falaya River.

GEOLOGICAL SOURCE OF THE WATERS OF THE BOGUE FALAYA RIVER.

This an other rivers of Louisiana and Mississippi, on the east of the delta, derive large portions of their waters from the great orange sand formation, which characterizes the greater part of the surface of Mississippi.

The thickness of the orange sand formation is extremely variable ; as originally deposited, its strata appear to have been dependent on the degree of denundation, which the strata of the more ancient formations had previously undergone. The greatest thickness observed by the learned and accomplished geologists, Professor Eugene W. Hilgard, was in a well dug at the University of Mississippi, to a depth somewhat more than two hundred feet. One hundred feet is no unusual thickness; but most commonly it varies between forty and sixty feet.

As the name indicates, the prevaling materials composing this formation, are silicious sands. They are usually colored, more or less, with hydrated peroxide of iron, or orange yellow ochre. The color thus imparted gives an endless variety of tints, whilst deposit of white sand suitable for the manufacture of glass are not uncommon.

The *Orange Sand* formation of Mississippi and Louisiana contains no fossils whatever characteristic of itself, and is without any appreciable organic matter.

The rounded shape of the grains of this great sand formation, and the relations of its materials, to those of the underlying formations, proves beyond question, that its deposition took place in flowing water. Nor can there be any doubt that the general direction of the current was from north to south, although locally changed or directed by the pre-existing inequalities of the surface.

The waters percolating through the orange sand formation at the present time are remarkable for the small amount of the salts of lime and magnesia which they contain, and may, therefore, be uniformly characterized as *free stone waters of excellent quality for drinking, bathing, cooking, washing and for various manufactories.*

RESULTS OF EXAMINATION OF SAMPLES OF WATER COLLECTED FROM THE BOGUE FALAYA RIVER BY THE SPECIAL COMMITTEE APPOINTED BY THE MAYOR AND ADMINISTRATORS OF THE CITY OF NEW ORLEANS.

The following samples of water from the Bogue Falaya River were submitted for analysis:

No. 1—Water from Bogue Falaya, taken at 8 a. m., July 28, 1882, from near bridge below Mulberry Grove. Heavy showers night before, and Bogue Falaya swollen one to two feet above ordinary.

No. 2—Water taken from the surface flow from pine flats, running into Bogue Falaya on the west side, about three miles above Covington; sample taken at 12 noon July 28, 1882, where running over edge of bank into Bogue Falaya.

No. 3—Water taken from Bogue Falaya at 12:30 a. m., July 28, 1882, at site of Marty's old mill, four or five miles below Covington.

No. 4—Water from "pond," or "slough," or "swamp," on west side of Bogue Falaya, not exceeding one acre in area. Has no present outlet to bayou. Not over six or eight inches deep. Goes dry in "dry times." Taken 1 o'clock p. m., July 28, 1882.

No. 5—Water from Bogue Falaya, taken July 28, 1882, 5 p. m., near Mulberry Grove.

No. 6—Water from Little Bogue Falaya, taken from mill pond at Pane's Mill, 12 o'clock noon July 29, 1882. Stream swollen from heavy shower last night; Mr. Page says is five feet higher than ordinary stage.

No. 7—Surface water from recent shower, taken from small branch running into Bogue Falaya on east side, near Mulberry Grove Cottage, 2 o'clock p. m., July 29, 1882.

PHYSICAL PROPERTIES.

Color.—With the exception of the samples marked respectively Nos. 2 and 4, the water was perfectly colorless; in the specimens indicated, there was a very faint, scarcely perceptible tinge of yellow. Chemical analysis revealed the fact that this color was due to vegetable coloring matter. The amount of organic matter, however, was a mere trace, and appeared to be derived from grasses and the leaves of trees. Nitrate of silver, oxalate of lime and the Baryta salt gave no deposit with any of those samples, showing that the coloration was due to a mere trace of the vegetable coloring matter.

Specific Gravity.—The specific gravity of each and every specimen did not differ from that of distilled water, 1000° at 60° F.

Deposit.—The specimens were free from any definite deposits; after standing for over twenty-four hours, a number of minute flocculi fell to the bottom. Under the microscope these light cloud-like flecks, were found to consist chiefly of the cells, spores and thalli of fresh water algae of green or brown colors, with a few small crystals of Silicic acid. Algae are found in all running streams, and without doubt their numbers are increased in the mass of the waters of a river by the aggitation of heavy and prolonged showers.

These green microscopical plants are characteristic of all collections of fresh water, and were, to a large extent, developed after the collection of the samples.

I attribute no deleterious properties whatever to these microscopic plants, which are found in even greater abundance in the rain-water, collected in our cisterns.

These samples of the Bogue Falaya water, therefore, may be described as clear, transparent and free from any distinct deposit or sediment; with a specific gravity similar to that of distilled water, and with the general characteristics of rain-water.

CHEMICAL EXAMINATION.

Careful testing with such reagents as the nitrate of silver, oxalate of ammonia, and Baryta salts, revealed the absence of the sulphates and chlorides, and the calcium compounds.

No more effect was produced upon these reagents than would have been caused by pure rain-water, collected in the country where the atmosphere would have been free from the impurities characteristic of the atmosphere of large cities.

Upon evaporation, in any small quantity, such as from two to four fluid ounces of the samples of water, no appreciable saline residue remained.

GENERAL CONCLUSIONS.

From the preceeding examination, I regard the water of the Bouge Falaya as pure, uncontaminated by saline or organic matters to any appreciable extent, and as suitable for drinking, washing and cooking, and also adapted to the use in boilers, and in all manufactures as those of paper and cloth, in which it is necessary to employ pure water, free from sedimentary matters.

EFFECT OF ABUNDANT RAINS.

It should be borne in mind, that these samples of water were taken after and during the presence of frequent rains, and that the Bogue Falaya, like the Mississippi and other streams, at this moment, is swollen to its greatest capacity.

The sample of water submitted to me for analysis by Governor D. B. Penn, was taken at a somewhat lower stage of the river, and in this sample nitrate of silver and oxalate of ammonia produced only a slight cloudiness, whilst cloride of barium produced no deposit. This sample was free from organic matter, but contained traces of the chlorides and the calcium compounds.

From this comparative examination we gather that the chemical composition of the Bogue Falaya water may vary within certain limits, in accordance with the greater or lesser rainfall. The same remark applies also to the waters of the Mississippi River.

In the year 1869, at the request of General Braxton Bragg, I examined, microscopically and chemically, the waters of the Mississippi and of the Bogue Falaya and Tangipahoa River, from the iron wells and cisterns and natural wells of the city; even the various forms of ice, natural and artificial, consumed in New Orleans, were included in the extended analysis. Only a fragment of this report was published, and I have never been able to secure my original manuscript. I would, however, respectfully refer your Honor to the following extracts from this report, as embodying replies to one or more of your inquiries, and also relating to subjects of great sanitary importance to the citizens of New Orleans.

At the time that this report was made, Colonel A. W, Bosworth (now of the Board of Health) was President of the City Waterworks, and General Braxton Bragg was Superinendent and Chief Engineer.

EXTRACTS FROM REPORT OF SUPERINTENDENT AND CHIEF ENGINEER.

SUPERINTENDENT'S OFFICE, CITY WATER WORKS,
NEW ORLEANS, January 15, 1870.

To the Board of Commissioners, City Water Works:

Gentlemen— * * * * * * * * * * *

WATER SUPPLY.

CONSUMPTION AND WASTE.

In seeking a source of water supply, we must examine, first, its quality; second, its quantity; and third, the cost of introduction.

Unless the quality is such as to recommend it as wholesome and suitable for domestic purposes, it is useless to look further; for the more abundant the supply, and the cheaper it could be had, the greater the objection.

The quantity to be obtained should be sufficient to meet all reasonable prospect for future increased consumption. And the cost must be within the available resources of the community.

We are eminently blessed in having the three conditions fulfilled, in the immense volume which the Mississippi unceasingly pours by our very doors.

ANALYSIS OF THE WATER SUPPLY.

Some prejudices, in the absence of scientific analysis, have existed against the water of the Mississippi, predicated almost entirely on the apperance given by the matter held in *suspension*. We have been long taught, however, by the habits of our oldest settlers, and by the constant practice of our seafaring people, to regard this water as pure and wholesome. To place the matter at rest and beyond question, specimens of the water were submitted to the able Professor of Chemistry in the University of Louisiana, Dr. Joseph Jones, whose report is submitted herewith. It will be seen he pronounces the water of the Mississippi, obtained by our works, remarkably pure and wholesome. Even the few foreign substances found—principally common salt and carbonate of lime—are regarded by him as beneficial, in such small quantities.

The great purity of the Mississippi water at this point is readily accounted for. The waters of all streams are originally derived from springs and surface drainage. The former bring from the bosom of the earth, in solution or suspension, large quantities of inorganic substances, and the latter add immense amounts of organic matter, swept from the surface. For several hundred miles above New Orleans, owing to the peculiar topography of the country, *no streams enter the Mississippi, and all surface drainage is from the river*. During the passage of the water over this distance, substances thus held and brought into contact with each other, and with the oxygen of the atmosphere, by the constant agitation and motion of the water, are decomposed, and the elements, reuniting, form new compounds, generally innoxious, the gases escaping into the atmosphere and the solids subsiding. In this way nearly all deleterious substances brought with the Mississippi are disposed of before the waters reach this point. Doubtless the mere trace of organic matter found is added to the water after it reaches the settlements just above the works.

The immense volume of water contained in the Mississippi, however, renders it almost impossible for us to contaminate it. The sewerage of London, thrown into the Thames and that of Paris, into the Seine, have a decided effect on the waters of those streams for a short distance; yet it is found to be rapidly changed, and almost disappears within a few miles. These waters, too, used in London and Paris, receive the drainage of a thickly populated country down to the point of supply.

Considering the great volume of water discharged by the Mississippi, even were it not relieved of the surface drainage for so great a distance above us, the location of half the civilized population of the world on its banks would not contaminate its waters to the extent now produced in the Thames and Seine, whose waters are used in London and Paris.

The water of the Tangipahoa River, taken from a point about forty miles from the city, was also analyzed. It is found both clear and pure, and were it not for its distance, and the cost of introduction, it would be a better source of supply even than the Mississippi.

EXTENSIONS

Economy and health both demand an early and very large extension of the works.

The saving on insurance alone would, in a few years, pay the whole cost. If the city cannot accomplish the work on a scale commensurate with its importance, it may be well to invite private enterprise and capital. No other city in this country of half the

population and commerce of New Orleans is without an adequate water supply, and all make annual additions in proportion to the progress of population.

DAILY SUPPLY AND WASTE.

The quantity of water delivered in the year was 1,915,963,251 gallons, or a daily average of 5,249,214, being a reduction of 1,017,043 gallons on the daily average of last year, due to the use of the metre and partial suppression of waste. This gives a daily average to each person for 1869, allowing ten persons to each hydrant in use, of ninety-five gallons. The highest average in any other city of the United States is in Boston, sixty gallons, and the general average does not exceed forty-five gallons. This excessive use and waste is sufficient reason why the water rates should be higher than in works where only half the quantity is taken, and were it not for the comparative economy with which the works are run, they could not be sustained. Consuming at least double the quantity of water, our people, under the present low tariff, are receiving it for about one-half what it costs in other cities of this country.

The public consumption is enormous, owing principally to the habit of running the water in the street gutters to do the work of scavengers.

The result is to cover the filth, or wash it back on the poor resident in the rear, there to reek, decompose, and pollute the atmosphere, at the expense of the public health. If this waste be considered necessary, it would be great economy to erect separate pumping works to deliver the supply. The water now used is raised on an average seventy feet above the river for the purpose of pouring it into the street gutters; ten feet would accomplish the same purpose, and six-sevenths of the expense might be saved.

Being considered public property, no one seem to care how much water is wasted, and public hydrants are opened by everybody and permitted to run at all hours. The consumption at the City Hall, for instance, is found by meter to be 6000 gallons daily, enough for all domestic purposes in sixty families. A public horse trough on the levee is found to take 24,000 gallons daily. In the markets and other public places the same extravagance prevails. Having no control over these abuses, the water-works cannot be responsible for the results.

The effect is to render a higher water rate necessary, and the party guilty of the abuses is generally the first to complain.

CHEMICAL EXAMINATION.

CHEMICAL EXAMINATION OF THE WATERS OF NEW ORLEANS, LOUISIANA BY JOSEPH JONES, M. D., PROFESSOR OF CHEMISTRY IN THE MEDICAL DEPARTMENT OF THE UNIVERSITY OF LOUISIANA.

General Braxton Bragg, New Orleans, La:

Dear Sir—The sample of the waters of the Mississippi River, and of various localities withig and around New Orleans, submitted to me for analysis, by you, as Superintendent of the City Water-works, have been subjected to careful chemical and miscroscopical examination, and the following results are respectfully submitted:

No. 1.—*Mississippi River Water, from Inlet Pipe.*

When first drawn, the watar presented a turbid appearance; upon standing, the suspended matter settled, forming a light grayish, yellow deposit; and the supernatant water remained slightly turbid, from a small remaining portion of suspended matters.

The insoluble suspended matters amounted to twenty-three and two-tenths (23.2) grains to the gallon of water, and, under the microscope, were found to consist chiefly of very finely divided sand (silicic acid), and the silicates of alumnia, and contained but few remains of animalcules or of vegetable structures.

After the removal of the suspended matters, the water yielded a specific gravity similar to that of distilled water—viz: 1000 at 60°—and the amount of saline matter, upon careful evaporation, was found to be only eleven and nine-tenths (11.9) grains per gallon.

Upon analysis, it was found that these saline matters contained only traces of the sulphates of potassa, soda and magnesia, and consisted almost entirely of the carbonate of lime and chloride of sodium. Each gallon contained 2.91 grains of lime (equivalent to 5.29 grains of Carbonate of lime) and 3.378 grains of chlorine (equivalent to 5.53 grains of chloride of sodium, common salt.)

No. 1.—*One gallon* (70,000 *grains*) *of Mississippi River water contained:*

Specific gravity at 60° F.	1000.00
Suspended matters deposited upon standing, grains.	23 30
Fixed saline constituents, grains	11.90
Carbonate of lime, grains	5.29
Chloride of sodium, grains	5.53
Carbonates and sulphates of soda, potassa and magnesia, grains	1.08

No. 2.—*Waters of Mississippi River (sample marked No. 3), from hydrants in office of City Water Works:*

The water was turbid, from sedimentary matters, when first drawn. Upon standing, the suspended earthy matters settled, leaving the water slightly turbid, from the presence of the more finely divided silicate of alumina. The sedimentary matters were in slightly less amounts than in the preceding sample, being only eighteen and eight-tenths (18.8) grains to the gallon. On the other hand, the fixed saline constituents were, within a fraction of a grain, similar in amount to those of the first samples, being eleven and two-tenths (11.2) grains to the gallon.

The reactions under different reagents were in like manner similar: chloride of barium producing a very slight, scarcely perceptible precipitate, whilst the nitrate of silver and oxalate of ammonia produced a more decided precipitate.

The sedimentary matter, in like manner, was found, under the microscope, to consist of minute fragments of sand (silicic acid) and of mineral silicates, with very few articles of organic matter or animalcules.

Each gallon contained 5.18 grains of chlorine and 1.45 grains of lime.

No. 2.—*One gallon (7,0000 grains) of Mississippi River water, from hydrant in office of City Water Works, contained:*

Specific gravity at 60° F.	1000.00
Suspended matter (silicic acids, silicates, etc.), grains	18.80
Fixed saline constituents grains	11.20
Chloride of sodium, grains	8.51
Carbonate of lime, grains	2.69
Sulphates and carbonates of alkalies, grains	0 05

From the preceding examination we conclude that the waters of the Mississippi, when freed from the suspended matters, are of great purity, and will compare favorably with the *drinking* water supplied to the largest and best regulated cities in the world.

The truth of this assertion is established by a comparison of the preceding results, with the results of the analyses of the various springs and rivers used in the supply of cities, as exhibited in the following table. In order to render the comparison more simple and conclusive, we have introduced into this table only the total amount of saline constituents.

* * * * * *

(This elaborate table of details is omitted).

* * * * * *

If the solid saline residue of one hundred thousand parts of the Mississippi River water be compared with the solid saline matters of the drinking waters of the noted rivers and springs recorded in the preceding table, it will be found that the drinking water supplied to the city of New Orleans compares favorably with each, and it is in fact far purer than the majority of the drinking waters heretofore analyzed by chemists. In each glass of Mississippi water less than half a grain of saline constituents are present, and this small amount, almost absolutely inappreciable in its effects upon the animal system, is composed almost entirely of common salt and carbonate of lime.

If those salts exert any effect whatever upon the animal economy, it is beneficial and not deleterious.

A point of considerable interest, in a sanitary point of view, is that the suspended matters of Mississippi river water are free from organic impurities, and consist almost entirely of finely divided silicic acid and silicicates. The suspended matters, so far from rendering the Mississippi river unfit for sanitary purposes, add to their disinfectant properties.

The health of New Orleans would be without doubt greatly promoted by flushing out the main drains and gutters continuously with full streams of Mississippi river water. The mud which would settle along the sides and bottoms of the drains would possess no noxious properties whatever of itself.

The free use of *coal tar* and gas lime and quick lime, also in gutters and drains, would tend in a like manner to arrest noxious emanations, and so preserve the purity of the atmosphere of the city.

No. 6.—*Water from the Tangipahoa River (marked No. 6.)*

This specimen of water was clear, transparent, and crystaline in appearance. The specific gravity was similar to that of distilled water, viz: 1000.

Nitrate of silver and oxalate of ammonia produced only a slight cloud, and chloride of barium produced no deposit.

The fixed saline constituents amounted to only five and six-tenth (5.6) grains to the gallon, and consisted of chloride of sodium. 1.41 grains, and carbonate of lime, 2.51 One gallon, (70,000 grains) of Tangipahoa water contained:

Specific gravity	1000.00
Sedimentary matters	none
Fixed saline constituents	5.60
Chloride of sodium	1.41
Carbonate of lime	2 51
Carbonates, silicates and sulphates sf potassa, soda and magnesia	1 68

The preceding analysis establishes the great purity of the waters of the Taugipahoa river.

This subject is of great importance in a sanitary point of view, and should be brought to the attention, not only of the proper authorities charged with the conduct of the sanitary police of the city, but should also be brought to the notice of the parties most interested in the preservation of their lives and health, viz: to the citizens.

The attention of the President of the City Waterworks is respectfully called, in this connection to the numerous analyses of the waters of certain Southern towns, which I have executed and published in my report to the Cotton Planter's Convention, on the "Agricultural Resources of Georgia," See pp. 245-305.

With great respect and high esteem.

I have the honor to be your obedient servant,

JOSEPH JONES, M. D.

UNIVERSITY OF LOUISIANA.
New Orleans, November 12, 1869.

The qualities of the cistern water of New Orleans vary under certain conditions, as:

1. The amount of rainfall.
2. The age and character of the cistern.
3. The nature of the roof from whence the water is collected.
4. The position and surroundings of the cistern, whether in an open lot or in a small yard close to the privy, or overshadowed by trees.
5. The presence and effects of certain manufactories, especially those which evolve noxious gases and mineral acids.
6. The amount and character of the dust and debris of all sorts washed from the atmosphere and from the roofs of the houses by the rains.

Owing to the continuous rains of the past four weeks, the cisterns of New Orleans are, and have been continuously replenished, and upon careful chemical examination I find that they afford water of great purity, yielding the specific gravity of distilled water, and giving similar reactions with chemical reagents.

Upon more extended examinations, however, at different seasons of the year, I have observed differences dependent upon the age of the cistern, the amount of water received and discharged, the care with which the sediment has been removed at regular intervals, and the position of the cistern with reference to trees and privies, the character of the roofs, whether wood, slate or metal.

Without doubt the gaseous matters arising from privies and from certain manufactures, as well as the particles of dust which float in the air and rest upon the roofs of houses are absorbed by the descending rains and finally reach the receptacles called cisterns.

Dust is highly complex, and represents the contents of streets and gutters.

How far the poisons inducing yellow fever, scarlet fever, Asiatic cholera, and malarial fever, may be dissolved by the descending showers, and finally affect the population through the medium of the water collected in cisterns has not been determined, but this subject is worthy of careful investigation.

It has been asserted that certain parasites and their larvæ may be introduced into the human system by the medium of drinking water.

It must, however, be admitted that as a rule the cistern water of New Orleans will compare favorably with the water supplied to the majority of

the large cities of this and other countries, and that the remarkable exemption of her citizens from the various forms of calculous disorders is due to the freedom of the cistern water from calcium and magnesium salts.

The abundant supplies of rain-water furnished by nature to the citizens of New Orleans is shown in the accompanying table, drawn up from authentic sources.

In this valuable table we have recorded the daily rainfall in New Orleans during a period of forty years.

All estimates as to the capacity and value of cisterns, as well as to the number, length and capacity of gutters and canals for the proper drainage of New Orleans, must be based upon the data furnished by this and similar tables, which embrace the *daily rainfall.*

The annual and monthly rainfall does not correctly illustrate the problems involved in the questions of surface drainage and of water supply for drinking, cooking and washing.

The periods of drouth, with the minimum water supply, as well as the periods of heaviest rainfall, must be carefully estimated.

GENERAL CONCLUSIONS.

1. The Mississippi River water varies in chemical composition within certain limits, in accordance with the temperature and rainfall; but at all times when freed from the usual deposit it may be regarded as a wholesome drinking water.

2. For purposes of drinking, bathing and manufacturing the Mississippi water should be freed from the heavy deposit which varies in quantity at different seasons, and with different stages in the main river and its tributaries.

3. As a rule, the waters derived from the soil of New Orleans by means of wells are wholly unfitted for drinking.

4. The cistern water of New Orleans is liable to contamination from many sources, and varies in composition with the seasons.

5. The waters of the Bogue Falaya are pure, of stable composition, are not liable to contamination, and are free from sediment, and require no filtration, and are, therefore, suitable for drinking, washing and manufacturing. With respect I have the honor to remain your obedient servant,

JOSEPH JONES, M. D.,
President Board of Health, State of Louisiana.

Fauna 367
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